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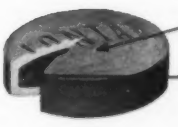

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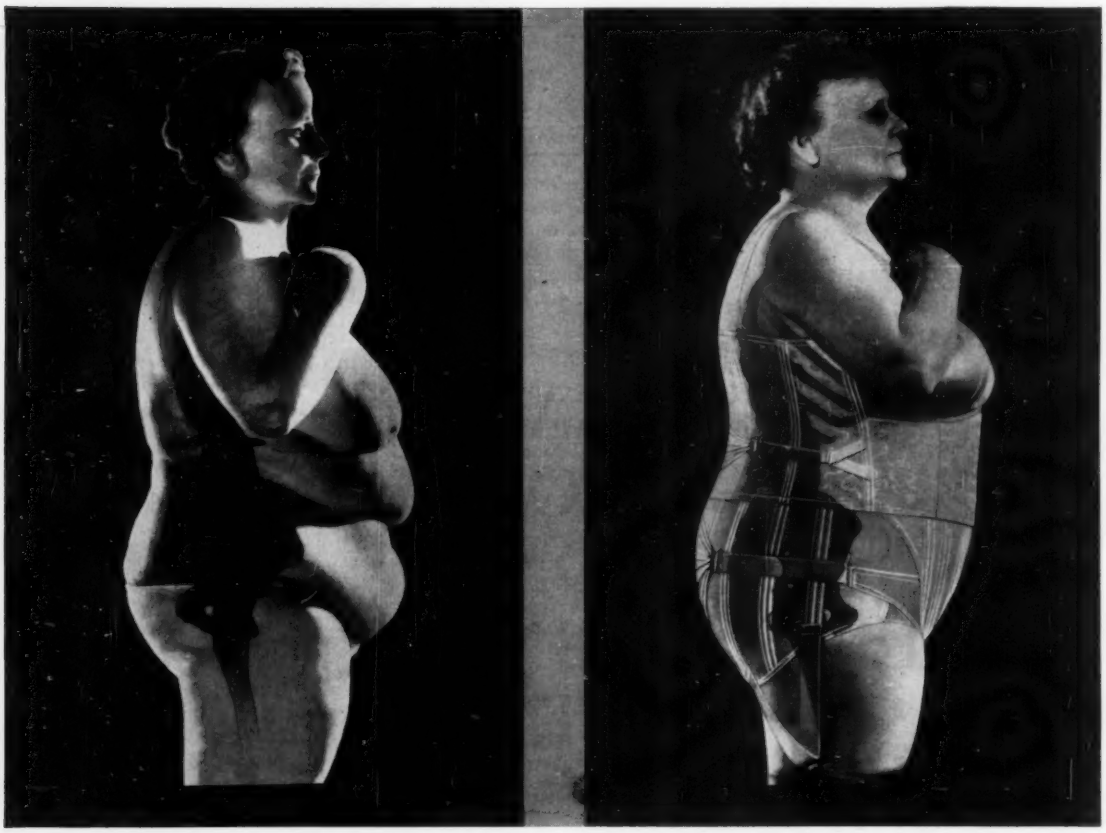

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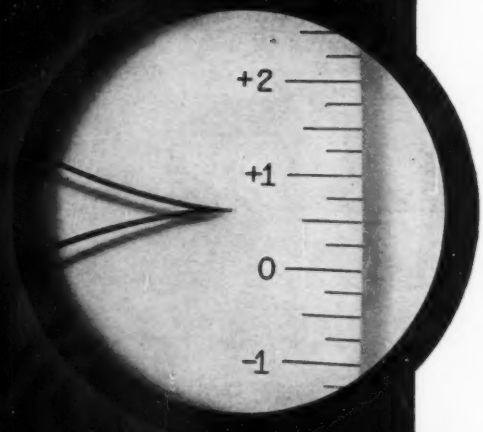

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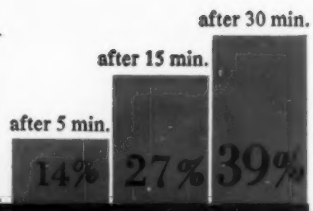

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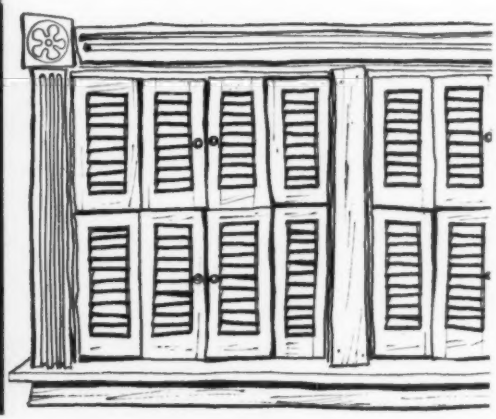

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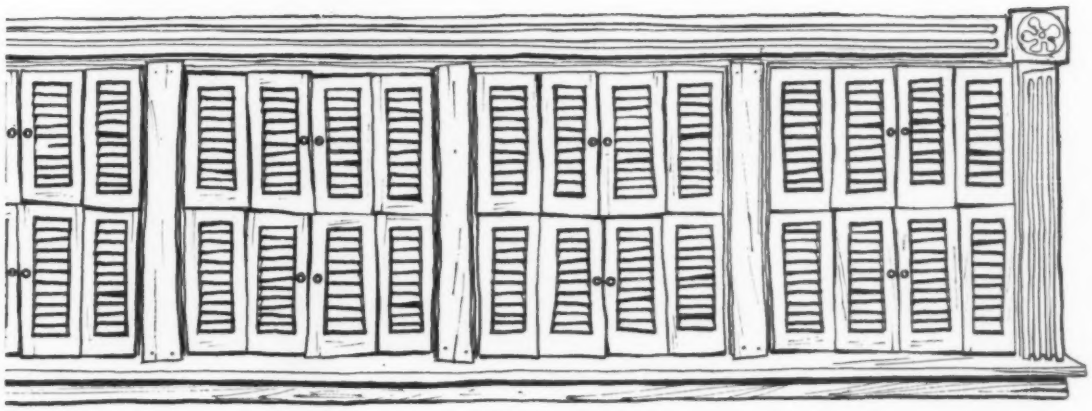

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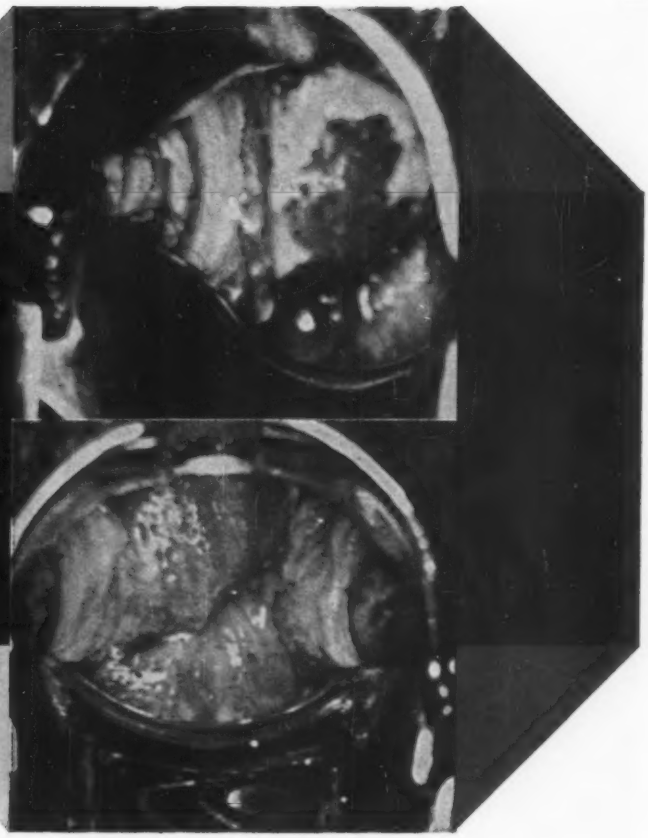

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1. Thomas, H. H.: Obstet. & Gynec. 9:163, 1957. 2. Browne, A. D. H.: J. Irish M.A. 40:86, 1957. 3. Pace, H. R., and Schantz, S. I.: J.A.M.A. 162:268, 1956.

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(1) Holt, J. O. S., Jr.: Dallas M. J. *42*:497, 1956. (2) Natenshon, A. L.: Am. Pract. & Digest Treat. *7*:1456, 1956. (3) Barnes, R. H.: J.A.M.A. *166*:898 (Feb. 22) 1958. (4) Gelvin, E. P.; McGavack, T. H., and Kenigsberg, S.: Am. J. Digest. Dis. *1*:155, 1956. (5) Ressler, C.: J.A.M.A. *165*:135 (Sept. 14) 1957. (6) Martel, A.: Canad. M. A. J. *76*:117, 1957.

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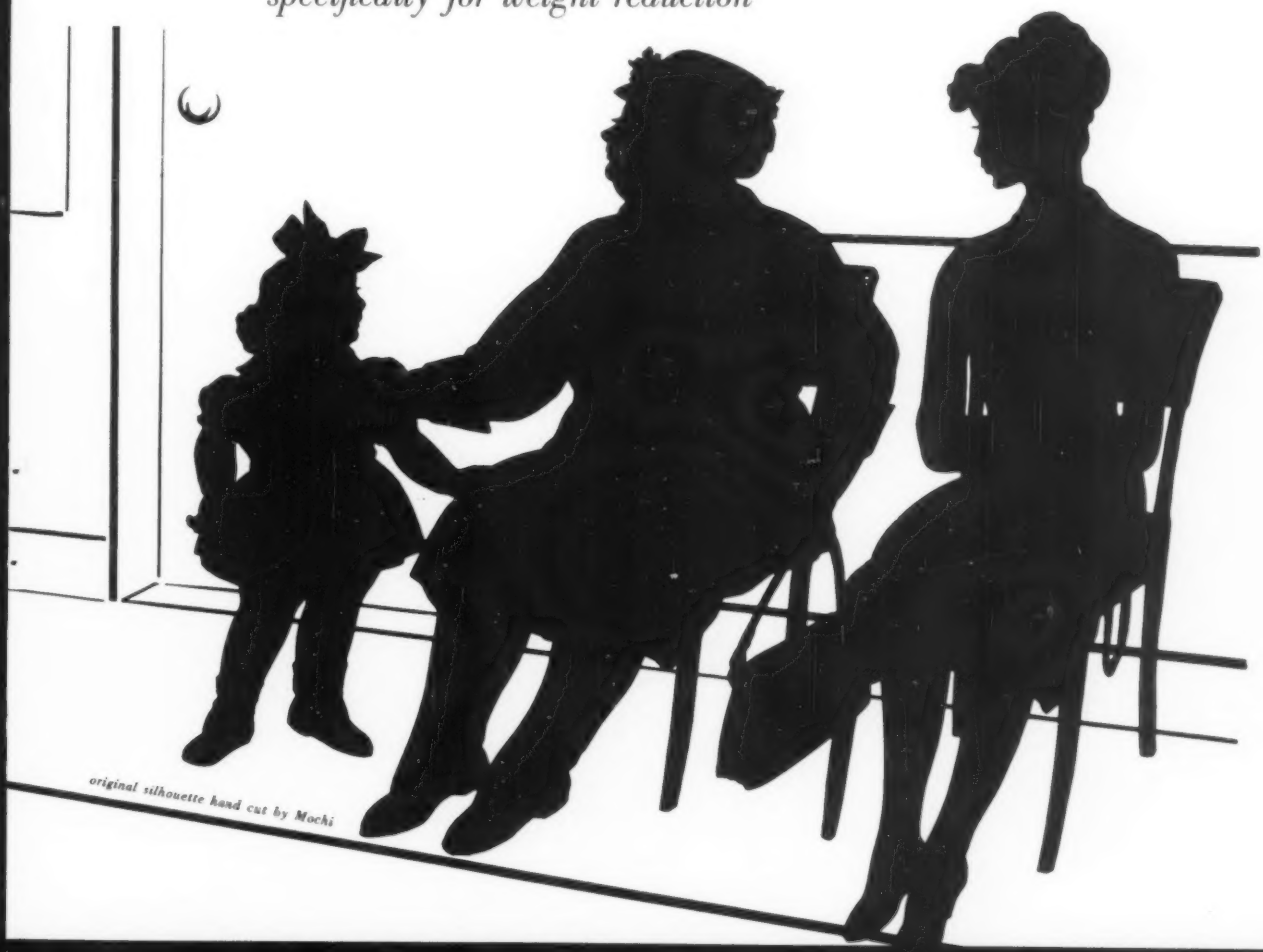

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(1) Stein, I. D.: Angiology **6**:403, 1955. (2) Küng, H. L.: Schweiz. med. Wchnschr. **85**:262, 1955. (3) Yourish, N.; Paton, B.; Brodie, B. B., and Burns, J. J.: A.M.A. Arch. Ophth. **53**:264, 1955. (4) Selitto, J. J., and Randell, L. D.: abstracted, Fed. Proc. **13**:403, 1954. (5) Domenjoz, R.: Internat. Rec. Med. **165**:467, 1952. (6) Smyth, C. J., and Clark, G. M.: J. Chron. Dis. **5**:734, 1957. (7) Brodie, B. B., and others: Am. J. Med. **16**:181, 1954. (8) Payne, R. W., and others: J. Lab. & Clin. Med. **45**:331, 1955. (9) Connell, J. F., Jr., and Rousselot, L. M.: Ann. New York Acad. Sc. **68**:155 (Aug. 30) 1957. (10) Neustadt, D. H., and Steinbrocker, O.: J. Lab. & Clin. Med. **47**:284, 1956. (11) Skversky, N. J.; Yarrow, M. W., and Lewinn, E. B.: J. Albert Einstein Med. Cen. **5**:268, 1957.

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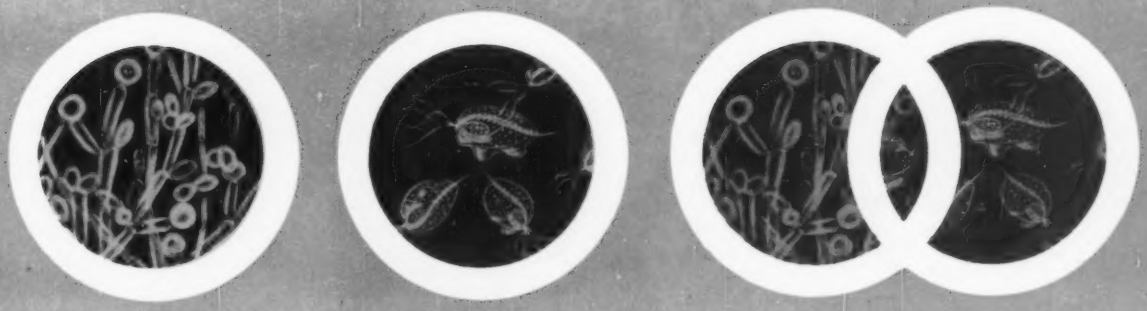

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WASHINGTON NEWS

FROM THE WASHINGTON OFFICE OF THE AMERICAN MEDICAL ASSOCIATION

Forand-type Bills Rejected by Senators . .
Union Welfare Funds Must Report on Their Finances . .
Vocational Rehabilitation Is Falling Short of Goal . .
International Health Receives Attention in Senate . .

FORAND-TYPE BILLS VOTED DOWN AS SOCIAL SECURITY AMENDMENTS IN SENATE

A flare-up of interest in Forand-type legislation at the session's end indicates that next year again this plan for hospitalization under social security will be an issue in the Senate. Reconsideration of the idea in the House is expected as a result of the House Ways and Means Committee's instructions for a survey of all problems and possible solutions involved in financing medical care of the aged. The report, to be made by the Department of Health, Education, and Welfare, has a deadline of Feb. 1, 1959. The HEW was instructed to pay particular attention to the possibility of adding to social security payroll taxes, with the money used to buy commercial or nonprofit health insurance on retirement.

In the Senate, where the Forand ideas received little attention in the Finance Committee hearings, the issue came up on the floor in a long session leading up to Senate acceptance of other social security amendments by a unanimous vote. The amendments passed by the Senate increase public assistance payments, although benefits are set at a lower level than the House wanted, and give states complete freedom in handling medical care payments under public assistance.

Sen. Wayne Morse (D., Oregon) first took the floor to suggest substitution of his social security amendments for those that had passed the House and been approved by the Senate Finance Committee. The Morse proposal was to increase benefits about 25%, to set up a hospital-surgical care plan along the Forand lines, and to boost taxes enough to pay for the benefits.

In defending his ideas, Senator Morse said in part: "I am . . . concerned with the fact that our social security system ignores what has often been called the greatest single unmet need of the aged—medical care . . . (his plan) transgresses not one iota on the private practice of medicine. I am aware of the fact, of course, that the medical profession is opposed to my type of amendment because the doctors fear it might lead . . . to socialized medicine. . . ."

Recognizing that his amendment had no chance, Senator Morse said nevertheless he would insist on a voice vote on it, explaining: "There are other Senators who are supporting my bill in the form of an amendment and who think at least we ought to go through to a voice vote. . . . I am going to let it go through to a voice vote; but I think he (Senator Kerr, chairman of the subcommittee and sponsor of the social security bill that passed) should know that come next January we will be back trying to get some hearings on the bill, and next time we are going to do our best to take the bill through to a yea and nay vote."

Although no Senators disputed Senator Morse, his amendment was defeated by voice vote when the time came, as he had predicted it would be.

Next to plug for the Forand principle was Sen. William Proxmire, Wisconsin Democrat, whose own social security program imbodies the Forand bill. The Proxmire proposals, liberalizing benefits in all directions and increasing taxes as well as setting up the hospitalization program, would cost in the billions of dollars, as was brought out at the House hearings on social security.

Senator Humphrey (D., Minn.), who had discussed his social security bill the day previously on the Senate floor, again went into detail, mostly for the record, and then withdrew the amendment before a vote was taken.

Of his amendment—providing hospitalization but not a surgical care program—Senator Humphrey said:

"In my opinion, the changes I have suggested today should be enacted this year. I believe they are necessary to meet two of the major deficiencies in our welfare program. I believe they are realistic in that they are modest efforts to handle these problems within our presently established social security system. I believe they are financially sound in that they will be financed by the earning power of those who stand to benefit. I trust that my colleagues will join in this effort to meet the continuing challenge of meaningful social security."

Shortly after this, the Senate passed the social security bill and sent it back to the House, which concurred in Senate changes. The measure then went on to the President, who was expected to sign it, despite some rumors of a veto.

The measure, if signed, will result in the following:

It will bring increased payments to social security beneficiaries in February, 1959, and to public assistance cases, effective Oct. 1. For retired workers the new higher payments to individuals will range from $33 to $116 maximum, compared with $20 and $108.50 at present, with family payments going from a maximum of $200 to $254.

The United States will contribute 197 million dollars more annually for public assistance payments.

Effective Jan. 1, taxes on earned income will go from 2.25 to 2.5% on employer and employee, and from 3.375 to 3.75% on the self-employed.

The amount of income to be taxed will be raised from the present first $4,200 to $4,800.

UNION WELFARE FUNDS MUST REPORT UNDER COMPROMISE PLAN

Under a compromise worked out by the Senate-House conference committee, information on labor union welfare funds, including pension and health plans, will have to be reported regularly to the Secretary of Labor, who would make the information part of the public record open for inspection.

Sen. Gordon Allott (R., Colo.), a member of the committee that worked out the compromise, declared:

"The report will give to each individual member information about how his fund is operated, what it consists of, and what his benefits and his rights under it are. But so far as being a really tough bill to stop the abuses which are found in abundance in many, many of these funds throughout the country, particularly in the fixed-cost, Taft-Hartley type plans, the conference report does not provide any effective authority to clean up the funds.

"When the next session of Congress convenes it is my intention to propose legislation which will give Congress and our committees—perhaps joint committees—an opportunity to survey the reports filed and to compile statistical information. I believe that with the information which is given to individual members, and with the statistical information made available, within a year and a half or two years at the most, we can have a wealth of information which will permit us to legislate far more adequately than at the present time."

VOCATIONAL REHABILITATION STILL SHORT OF GOAL

The number of persons rehabilitated under federal-state programs continues to increase, but it is still short of goals set by the Office of Vocational Rehabilitation and President Eisenhower.

Reporting on the last fiscal year's activities (ending last June 30), OVR Director Mary E. Switzer said 74,320 disabled were rehabilitated to the point they could return to work and "make good on their jobs." In addition, 18,584 others have been rehabilitated to be employable, but they have not yet found jobs.

In contrast, the OVR's own goal for the year was 80,000, and President Eisenhower, in 1954, when he asked Congress to revitalize the rehabilitation program, said the goal should be 200,000 rehabilitations by 1959. In explanation, the OVR sources say that while Congress annually appropriates all the money the agency needs, some states fail to vote enough money for rehabilitation, and consequently part of the United States matching money available to them is not used.

States first have to appropriate their own rehabilitation funds before they are eligible for federal help. U. S. aid is granted according to a formula that takes into account the states' per capita wealth as well as their population, so that low-income states are in line to receive relatively more than high income states, providing the state itself is willing to spend enough of its own funds.

On July 1, approximately 159,000 disabled persons were receiving help from state rehabilitation agencies, a 10% increase over the previous year. The OVR estimates that first-year earnings of the 74,320 persons rehabilitated last year will be about 148 million dollars, in contrast to the 22 million earned before rehabilitation.

Although short of the goals, the year's rehabilitations were new high records. Commenting on the year's program, Secretary Arthur S. Flemming of the Department of Health, Education, and Welfare declared:

"This is especially heartening in view of the fact that the period in which the new record was achieved was one in which jobs were harder to get than usual in some areas.

"The steady growth of this program is an achievement of great significance in both humanitarian and economic values. The new record is further evidence that the vocational rehabilitation legislation of 1954 is providing the momentum that ultimately will enable us to meet much more fully the rehabilitation needs of the disabled people of the country."

INTERNATIONAL HEALTH SUBJECT OF SENATE ACTIONS

International health activities assumed importance in the Senate in the closing days of the session.

Sen. Lister Hill (D., Ala.) introduced a resolution calling for the establishment of a national advisory council for international medical research and a national institute for international medical research, both designed to encourage international medical research.

The institute would distribute money for research training outside the United States, on applications approved by the council, which would meet three times a year.

A total of 50 million dollars a year would be authorized. The surgeon general of U. S. Public Health Service would be responsible for coordinating work of the council and the national advisory health council and other federal advisory boards in medical research and rehabilitation fields.

The resolution specifically forbids use of federal funds for support of a public health work of operational nature, but it would limit assistance to research projects.

Also, the Senate approved a resolution by Sen. Hubert Humphrey (D., Minn.) that would authorize the Committee on Government Operations to "examine, investigate and make a complete study" of all international health and cultural programs in which the United States is involved and all international health organizations of which this country is a member. It would also look into all "exchange of persons" programs.

The committee would complete its study by next Jan. 31, and its expenditures would be limited to $30,000.

MISCELLANY

The National Institute of Allergy and Infectious Diseases is particularly interested in patients of any age having aspectic meningitis, especially cases diagnosed as nonparalytic poliomyelitis. Physicians interested in referring patients are invited to write or phone Dr. John P. Utz, care of the institute, at Bethesda 14, Md. Sufficient diagnostic information should be furnished to permit determination as to suitability for admission of cases to the studies.

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Schneeberg and his associates[2] gave Vallestril to 198 patients with postpartum breast engorgement, pain and lactation. They reported: "The patients . . . achieved overall results . . . somewhat better than those in patients receiving 3 mg. of diethylstilbestrol. . . . Untoward effects, even when large doses were used, were rare. The 'slight bleeding' recorded . . . was probably of no significance and was doubtless no more than would have occurred in these individuals without therapy."

Napp, Goldfarb and Massell[3] conducted a controlled study in which 207 postpartum patients received Vallestril, 213 patients were given diethylstilbestrol and 193 patients did not receive any hormonal therapy. "The stilbestrol treated group showed a significantly greater incidence both of interim bleeding and of hypermenorrhea than did the control or the Vallestril treated groups."

These authors concluded that "Vallestril is a superior synthetic estrogen for the suppression of lactation. The low incidence of interim bleeding and of hypermenorrhea constitute a most important characteristic of the drug."

Only two 20-mg. tablets taken daily, for five days, suppress lactation and relieve engorgement and pain. Dosages for indications other than the suppression of lactation are given in Reference Manual No. 7. G. D. Searle & Co., Research in the Service of Medicine.

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1. Council on Drugs: New and Nonofficial Drugs 1958. Methallenestril, Philadelphia, J. B. Lippincott Company, 1958, pp. 477-478.

2. Schneeberg, N. G.; Perczek, L.; Nodine, J. H., and Perloff, W. H.: Methallenestril, a New Synthetic Estrogen, J.A.M.A. 161:1062 (July 14) 1956.

3. Napp, E. E.; Goldfarb, A. F., and Massell, G.: The Parenteral Use of Methallenestril for the Suppression of Lactation. A New Approach, West. J. Surg. 64:492 (Sept.) 1956.

SEARLE

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. F. J. L. Blasingame, 535 North Dearborn St., Chicago 10, Executive Vice President.
1958 Clinical Meeting, Minneapolis, Dec. 2-5.
1959 Annual Meeting, Atlantic City, June 8-12.
1959 Clinical Meeting, Dallas, Texas, Dec. 1-4.

AMERICAN

September

AMERICAN ACADEMY FOR CEREBRAL PALSY, Sheraton-Biltmore Hotel, Providence, R. I., Sept. 25-27. Dr. Raymond R. Rembolt, University Hospitals, Iowa City, Ia., Secretary.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, The Homestead, Hot Springs, Va., Sept. 4-6. Dr. E. Stewart Taylor, 4200 E. 9th Ave., Denver 20, Secretary.

AMERICAN COLLEGE OF PHYSICIANS, Mid-West Regional Meeting, Milwaukee, Wis., Sept. 27. Dr. Joseph F. Rastetter, Milwaukee General Hosp., Milwaukee 13, General Chairman.

AMERICAN FRACTURE ASSOCIATION, Skirvin Hotel, Oklahoma City, Okla., Sept. 29-Oct. 4. Dr. H. W. Wellmerling, 610 Griesheim Bldg., Bloomington, Ill., Secretary.

AMERICAN MEDICAL WRITERS' ASSOCIATION, Hotel Morrison, Chicago, Sept. 26-27. Dr. Harold Swanberg, 510 Maine St., Quincy, Ill., Secretary.

AMERICAN ROENTGEN RAY SOCIETY, Shoreham Hotel, Washington, D. C., Sept. 27-Oct. 3. Dr. C. Allen Good, 200, 1st St., S. W., Rochester, Minn., Secretary.

COLORADO STATE MEDICAL SOCIETY, Broadmoor Hotel, Colorado Springs, Sept. 24-27. Mr. Harvey T. Sethman, 1612 Tremont Place, Denver 2, Executive Secretary.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY, Municipal Auditorium, Kansas City, Mo., Sept. 22-25. Mr. A. L. Bingham, 3036 Gillham Rd., Kansas City 8, Mo., Executive Secretary.

KENTUCKY STATE MEDICAL ASSOCIATION, Brown Hotel, Louisville, Sept. 23-25. Mr. J. P. Sanford, 1169 Eastern Parkway, Louisville 17, Executive Secretary.

MARYLAND, MEDICAL & CHIRURGICAL FACULTY OF THE STATE OF, Semiannual Meeting, Ocean City, Md., Sept. 12. Mr. John Sargeant, 1211 Cathedral St., Baltimore 1, Executive Secretary.

MICHIGAN STATE MEDICAL SOCIETY, Sheraton-Cadillac Hotel, Detroit, Sept. 30-Oct. 3. Dr. L. Fernald Foster, 606 Townsend St., P. O. Box 539, Lansing, Mich., Secretary.

MISSISSIPPI VALLEY MEDICAL SOCIETY, Morrison Hotel, Chicago, Sept. 24-26. Dr. Harold Swanberg, 510 Main St., Quincy, Ill., Secretary.

MONTANA MEDICAL ASSOCIATION, Northern Hotel, Billings, Sept. 11-13. Mr. L. R. Hegland, P. O. Box 1692, Billings, Executive Secretary.

NEVADA STATE MEDICAL ASSOCIATION, Elko, Sept. 17-20. Mr. Nelson B. Neff, P. O. Box 188, Reno, Executive Secretary.

NEW HAMPSHIRE MEDICAL SOCIETY, Mt. Washington Hotel, Bretton Woods, Sept. 19-22. Mr. Hamilton S. Putnam, 18 School St., Concord, Executive Secretary.

NORTHEASTERN SECTION, AMERICAN UROLOGICAL ASSOCIATION, Equinox House, Manchester, Vt., Sept. 12-13. Dr. F. O. Harbach, 831 James St., Syracuse, N. Y., Secretary.

OREGON STATE MEDICAL SOCIETY, Columbia Athletic Club, Portland, Sept. 3-5. Dr. Max H. Parrott, 1020 S. W. Taylor St., Portland 5, Secretary.

TENNESSEE VALLEY MEDICAL ASSEMBLY, Read House, Chattanooga, Tenn., Sept. 29-30. Dr. Harry A. Stone, 109 Medical Arts Bldg., Chattanooga 2, Tenn., Secretary.

TEXAS ACADEMY OF GENERAL PRACTICE, San Antonio, Tex., Sept. 22-24. Mr. Donald C. Jackson, 1905 N. Lamar, Austin, Tex., Executive Secretary.

TRI-STATE MEDICAL SOCIETY, Shreveport, La., Sept. 18. Dr. J. C. Sanders, Sanders Clinic, Kings Highway, Shreveport, La., Secretary.

UTAH STATE MEDICAL ASSOCIATION, Hotel Utah, Salt Lake City, Sept. 9-12. Mr. Harold Bowman, 42 S. Fifth East St., Salt Lake City 2, Executive Secretary.

VERMONT STATE MEDICAL SOCIETY, Mt. Washington Hotel, Bretton Woods, N. H., Sept. 20-22. Mr. Getty Page, 128 Merchants Row, Rutland, Vt., Executive Secretary.

WASHINGTON STATE MEDICAL ASSOCIATION, Davenport Hotel, Spokane, Sept. 14-17. Mr. Ralph W. Neill, 1309 7th Ave., Seattle, Executive Secretary.

October

ACADEMY OF PSYCHOSOMATIC MEDICINE, Park Sheraton Hotel, New York, Oct. 9-11. For information write: Dr. Bertram B. Moss, Suite 1035, 55 E. Washington St., Chicago 2.

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY, Palmer House, Chicago, Oct. 12-17. Dr. W. L. Benedict, 100 First Avenue Bldg., Rochester, Minn., Secretary.

AMERICAN ACADEMY OF PEDIATRICS, Palmer House, Chicago, Oct. 20-23. Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Executive Secretary.

AMERICAN ASSOCIATION OF MEDICAL CLINICS, Palace Hotel, San Francisco, Oct. 2-4. Dr. John R. Hand, 1216 Southwest Yamhill St., Portland, Ore., Secretary.

AMERICAN ASSOCIATION OF MEDICAL RECORD LIBRARIANS, Statler Hotel, Boston, Oct. 13-16. Miss Doris Gleason, 510 N. Dearborn St., Chicago 10, Executive Director.

AMERICAN ASSOCIATION OF PUBLIC HEALTH PHYSICIANS, St. Louis, Oct. 27-31. Dr. Joseph M. Bistowish, P. O. Box 1117, Tallahassee, Fla., Secretary.

AMERICAN ASSOCIATION FOR THE SURGERY OF TRAUMA, Drake Hotel, Chicago, Oct. 2-4. Dr. William T. Fitts, Jr., 3400 Spruce St., Philadelphia 4, Secretary.

AMERICAN CLINICAL AND CLIMATOLOGICAL ASSOCIATION, Otesaga Hotel, Cooperstown, N. Y., Oct. 9-11. Dr. Marshall N. Fulton, 124 Waterman St., Providence 6, R. I., Secretary.

AMERICAN COLLEGE OF GASTROENTEROLOGY, Jung Hotel, New Orleans, Oct. 19-25. Mr. Daniel Weiss, 33 W. 60th St., New York 23, Executive Secretary.

AMERICAN COLLEGE OF SURGEONS, Conrad Hilton, Chicago, Oct. 6-10. Dr. Michael L. Mason, 40 E. Erie St., Chicago, Secretary.

AMERICAN DIETETIC ASSOCIATION, Bellevue-Stratford Hotel, Philadelphia, Oct. 21-24. Miss Ruth M. Yakel, 620 N. Michigan Ave., Chicago 11, Executive Secretary.

AMERICAN HEART ASSOCIATION, Fairmont Hotel, San Francisco, Oct. 24-28. Mr. John D. Brundage, 44 E. 23d St., New York 10, Secretary.

AMERICAN OTORHINOLOGIC SOCIETY FOR PLASTIC SURGERY, Conrad Hilton Hotel, Chicago, Oct. 12. Dr. Joseph G. Gilbert, 75 Barberry Lane, Roslyn Heights, N. Y., Secretary.

AMERICAN PUBLIC HEALTH ASSOCIATION, Kiel Auditorium, St. Louis, Oct. 27-31. Dr. Berwyn F. Mattison, 1790 Broadway, New York 19, Secretary.

AMERICAN SCHOOL HEALTH ASSOCIATION, St. Louis, Oct. 26-31. Dr. A. O. DeWeese, 515 E. Main St., Kent, Ohio, Secretary.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, Penn-Sheraton Hotel, Pittsburgh, Oct. 19-24. Dr. J. Earl Remlinger, 802 Ashland Ave., Wilmette, Ill., Secretary.

AMERICAN SOCIETY OF PLASTIC AND RECONSTRUCTIVE SURGERY, Drake Hotel, Chicago, Oct. 12-17. Dr. Kenneth L. Pickrell, Duke Univ. Hosp., Durham, N. C., Secretary.

AMERICAN SOCIETY FOR THE STUDY OF ARTERIOSCLEROSIS, Hotel Whitcomb, San Francisco, Oct. 24-26. Dr. O. J. Pollak, P. O. Box 228, Dover, Del., Secretary.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Ocean House, Swampscott, Mass., Oct. 13-15. Dr. Richard H. Young, 303 E. Chicago Ave., Chicago, Secretary.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS OF AMERICA, Statler Hotel, Hartford, Conn., Oct. 22-24. Dr. Royal S. Schaaf, P. O. Box 594, Newark 1, N. J., Secretary.

ASSOCIATION OF MEDICAL ILLUSTRATORS, Dallas, Tex., Oct., Miss Rose M. Reynolds, 42d & Dewey Ave., Omaha 5, Secretary.

ASSOCIATION OF STATE & TERRITORIAL HEALTH OFFICERS, Hotel Washington, Washington, D. C., Oct. 22-24. Dr. Mack I. Stanholtz, State Office Bldg., Richmond, Va., Secretary.

CENTRAL ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, Hotel Leamington, Minneapolis, Oct. 2-4. Dr. Edwin J. DeCosta, 104 S. Michigan Ave., Chicago 3, Secretary.

CENTRAL NEUROPSYCHIATRIC ASSOCIATION, Deshler Hilton Hotel, Columbus, O., Oct. 17-18. Dr. Ralph M. Patterson, Ohio State Univ., College of Med., Columbus 10, O., Secretary.

CENTRAL SOCIETY FOR CLINICAL RESEARCH, Drake Hotel, Chicago, Oct. 31-Nov. 1. Dr. Austin S. Weisberger, 2065 Adelbert Rd., Cleveland 6, Secretary.

CLINICAL ORTHOPAEDIC SOCIETY, Brown Palace Hotel, Denver, Oct. 2-4. Dr. Charles H. Franz, 1801 Wealthy St. S. E., Grand Rapids, Mich., Secretary.

CONGRESS OF NEUROLOGICAL SURGEONS, St. Francis Hotel, San Francisco, Oct. 29-Nov. 1. Dr. Richard L. DeSaussure, 899 Madison Ave., Memphis, Tenn., Secretary.

EASTERN PSYCHIATRIC RESEARCH ASSOCIATION, INC., Brooklyn State Hosp., Brooklyn, N. Y., Oct. 23-24. For information write: Dr. David J. Impastato, 40 Fifth Ave., New York.

GULF COAST CLINICAL SOCIETY, Pensacola, Fla., Oct. 23-24. Dr. J. J. Baehr, Jr., 117 N. Palafox St., Pensacola, Fla., Secretary.

INDIANA STATE MEDICAL ASSOCIATION, Murat Temple, Indianapolis, Oct. 13-15. Mr. James A. Waggener, 23 E. Ohio St., Indianapolis 4, Executive Secretary.

PENNSYLVANIA, MEDICAL SOCIETY OF THE STATE OF, Bellevue-Stratford, Philadelphia, Oct. 12-17. Mr. Lester H. Perry, 230 State St., Harrisburg, Executive Director.

MEDICAL SOCIETY OF VIRGINIA, Hotel Jefferson, Richmond, Oct. 12-15. Mr. Robert I. Howard, 1105 W. Franklin St., Richmond 20, Executive Secretary.

MISSISSIPPI VALLEY CONFERENCE ON TUBERCULOSIS, Biltmore Hotel, Dayton, Ohio, Oct. 15-18. Mrs. Augustus K. Maxwell, 1412 W. Washington Blvd., Chicago 7, Secretary.

NATIONAL PROCTOLOGIC ASSOCIATION, Hamilton Hotel, Chicago, Oct., Dr. George E. Mueller, 59 E. Madison St., Chicago 2, Secretary.

NORTH CENTRAL MEDICAL CONFERENCE, Hotel Leamington, Minneapolis, Oct. 11-12. Mr. R. R. Rosell, 496 Lowry Medical Arts Building, St. Paul 2, Minn., Secretary.

OKLAHOMA CITY CLINICAL SOCIETY, Biltmore Hotel, Oklahoma City, Okla., Oct. 27-29. Mrs. Alma O'Donnell, 503 Medical Arts Bldg., Oklahoma City, Okla., Executive Secretary.

SOUTHWESTERN MEDICAL ASSOCIATION, Pioneer Hotel, Tucson, Ariz., Oct. 23-25. Dr. Russell L. Deter, 1501 Arizona St., El Paso, Tex., Secretary.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, San Francisco, Oct., Dr. A. C. Remington, 9851 Sepulveda Blvd., Los Angeles 45, Secretary.

WESTERN ORTHOPEDIC ASSOCIATION, Multnomah Hotel, Portland, Ore., Oct. 22-25. Dr. Eldon G. Chuinard, 1922 N. W. Johnson, Portland 9, Ore., Secretary.

November

AMERICAN ASSOCIATION OF BLOOD BANKS, Netherlands Plaza Hotel, Cincinnati, Nov. 20-22. Dr. John B. Alsever, 1211 W. Washington, Phoenix, Ariz., Secretary.

AMERICAN COLLEGE OF CARDIOLOGY, INTERIM MEETING, Jung Hotel, New Orleans, La., Nov. 20-22. Dr. Philip Reichert, Empire State Bldg., New York 1, Secretary.

AMERICAN DENTAL ASSOCIATION, Memorial Auditorium, Dallas, Tex., Nov. 10-13. Dr. Harold Hillenbrand, 222 E. Superior St., Chicago 11, General Secretary.

AMERICAN SOCIETY OF CLINICAL PATHOLOGISTS, Congress Hotel, Chicago, Nov. 2-8. Dr. Clyde G. Culbertson, Indiana Univ. Med. Center, West Michigan St., Indianapolis, Secretary.

AMERICAN SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Hotel Deauville, Miami Beach, Fla., Nov. 4-7. Dr. R. B. Hill, 3575 St. Gaudens Rd., Miami 33, Fla.

(Continued on page 26)

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LONG						
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SAFETY						
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**Friedlander, H. S.: The role of ataraxics in cardiology. Am. J. Card. 1 :395, March 1958.*

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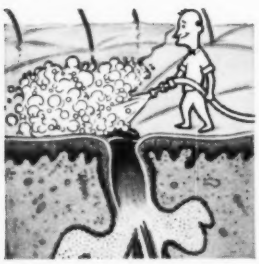

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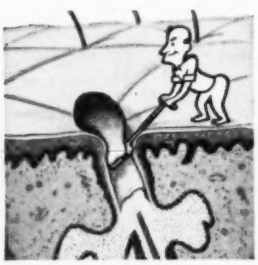

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Association of Military Surgeons of the U. S., Hotel Statler, Washington, D. C., Nov. 17-19. Col. Robert E. Bitner, 1726 Eye St., N. W., Washington 6, D. C., Secretary.

College of American Pathologists, Congress Hotel, Chicago, Nov. 1-5. Dr. A. H. Dearing, Prudential Plaza, Suite 2115, Chicago 1, Executive Secretary.

District of Columbia, Medical Society of the, 1718 M St., N. W., Washington, Nov. 24-26, Mr. Hheodore Wiprud, 1718 M St., N. W., Washington 6, Secretary.

Gerontological Society, Bellevue-Stratford Hotel, Philadelphia, Nov. 6-8. Dr. Nathan W. Shock, Baltimore City Hospitals, Baltimore 24, Secretary.

Inter-Society Cytology Council, Hotel Statler, New York, Nov. 13-15. Dr. Paul F. Fletcher, 634 N. Grand Blvd., St. Louis 3, Secretary.

Interstate Post Graduate Medical Association of North America, Cleveland, Nov. 10-13. Dr. Erwin R. Schmidt, Box 1109, Madison 1, Wis., Secretary.

Michigan Academy of General Practice, Sheraton-Cadillac Hotel, Detroit, Nov. 12-13. Dr. F. P. Rhoades, 970 Maccabees Bldg., Detroit 2, Convention Manager.

National Society for Crippled Children & Adults, Statler Hilton Hotel, Dallas, Tex., Nov. 16-20. Miss Catharine Bauer, 11 S. LaSalle St., Chicago 3, Director of Information.

New England Postgraduate Assembly, Statler Hotel, Boston, Nov. 4-6. Mr. Robert S. Boyd, Massachusetts Medical Society, 22 The Fenway, Boston 15, Executive Secretary.

Omaha Midwest Clinical Society, Sheraton-Fontenelle Hotel, Omaha, Nov. 3-6. Dr. Payson Adams, 1031 Medical Arts Bldg., Omaha 2, Secretary.

Puerto Rico Medical Association, Santurce, P. R., Nov. 18-22. Mr. J. A. Sanchez, Box 9111, Santurce 29, P. R., Executive Secretary.

Radiological Society of North America, Palmer House, Chicago, Nov. 16-21. Dr. Donald S. Childs, 713 E. Genesee St., Syracuse 2, N. Y., Secretary.

Southern Medical Association, New Orleans, Nov. 3-6. Mr. V. O. Foster, 1020 Empire Bldg., Birmingham 3, Ala., Executive Secretary.

United States Section, International College of Surgeons, Mid-Atlantic Regional Meeting, The Homestead, Hot Springs, Va., Nov. 17-18. For information address: Dr. Elbryne G. Gill, 711 Jefferson St., S., Roanoke 13, Va.

Western Surgical Association, Kahler Hotel, Rochester, Minn., Nov. 20-22. Dr. John T. Reynolds, 612 N. Michigan Ave., Chicago 11, Secretary.

December

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 6-11. Dr. R. R. Kierland, Mayo Clinic, Rochester, Minn., Secretary.

American Medical Association, Clinical Meeting, Hotel Leamington, Minneapolis, Dec. 2-5. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 12-13. Dr. Rollo J. Masselink, 700 W. 168th St., New York 32, Secretary.

Mid-West Forum on Allergy, Sheraton-Cadillac Hotel, Detroit, Dec. 6-7. Dr. John M. Sheldon, University Hospital, Ann Arbor, Mich., General Chairman.

Southern Surgical Association, Boca Raton Club & Hotel, Boca Raton, Fla., Dec. 9-11. Dr. George G. Finney, 2947 St. Paul St., Baltimore 18, Md., Secretary.

AMERICAN

1959

January

American Academy of Orthopaedic Surgeons, Palmer House, Chicago, Jan. 24-29. Dr. Clinton L. Compere, 720 N. Michigan Ave., Chicago 11, Secretary.

American Protestant Hospital Association, Jefferson Hotel, St. Louis, Jan. 27-30. Mr. Olin E. Oeschger, 740 Rush St., Chicago 11, General Secretary.

International College of Surgeons, Southeastern Regional Meeting, Miami Beach, Fla., Jan. 4-7. Dr. Harold O. Hallstrand, 7210 Red Road, South Miami, Fla., Chairman.

Rocky Mountain Traumatic Surgical Association, Aspen, Colo., Jan. 25-29. Dr. Charles B. Bartell, 1600 Orange Ave., Long Beach 13, Calif. Secretary.

Western Society for Clinical Research, Carmel-by-the-Sea, Calif., Jan. 29-31. Dr. William N. Valentine, University of California Medical Center, Los Angeles 24, Secretary.

February

American Academy of Allergy, Morrison Hotel, Chicago, Feb. 9-11. Dr. Bram Rose, Royal Victoria Hosp., Montreal, Quebec, Secretary.

American Academy of Occupational Medicine, Boston, Feb. 11-13. Dr. L. Blaney, 1608 Walnut St., Philadelphia 3, Secretary.

American College of Radiology, Drake Hotel, Chicago, Feb. 6-7. Mr. William C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Director.

California Medical Association, Sheraton-Palace Hotel, San Francisco, Feb. 22-25. Mr. John Hunton, 450 Sutter St., San Francisco 8, Executive Secretary.

March

Alaska Territorial Medical Association, Baranof Hotel, Juneau, Mar. Dr. Robert B. Wilkins, 1121 Fourth Ave., Anchorage, Secretary.

American Broncho-Esophagological Association, The Homestead, Hot Springs, Va., Mar. 8-9. Dr. F. Johnson Putney, 1712 Locust St., Philadelphia 3, Secretary.

American College of Allergists, Fairmont Hotel, San Francisco, Mar. 15-20. Dr. M. Coleman Harris, 450 Sutter St., San Francisco, Secretary.

(Continued on page 28)

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American Laryngological Association, The Homestead, Hot Springs, Va., Mar. 8-9. Dr. James H. Maxwell, University Hospital, Ann Arbor, Mich., Secretary.

American Laryngological, Rhinological & Otological Society, The Homestead, Hot Springs, Va., Mar. 10-12. Dr. C. Stewart Nash, 708 Medical Arts Bldg., Rochester 7, N. Y., Secretary.

American Orthopsychiatric Association, Sheraton-Palace Hotel, San Francisco, Mar. 30-Apr. 1. Dr. Marion F. Langer, 1790 Broadway, New York 19, Executive Secretary.

American Otological Society, The Homestead, Hot Springs, Va., Mar. 13-14. Dr. Lawrence R. Boies, University Hospital, Minneapolis 14, Secretary.

Michigan Academy of General Practice, Post-Graduate Clinic, Sheraton-Cadillac Hotel, Detroit, Mar. 3. Dr. F. P. Rhoades, 970 Maccabees Bldg., Detroit 2, Convention Manager.

National Health Council, Palmer House, Chicago, Mar. 17-19. Mr. Philip E. Ryan, 1790 Broadway, New York 19, Executive Director.

National Multiple Sclerosis Society, New York, Mar. 9. Mr. Donald Vail, 257 4th Ave., New York 10, Secretary.

Southeastern Surgical Congress, Deauville Hotel, Miami Beach, Fla., Mar. 9-12. Dr. Benjamin T. Beasley, 45 Edgewood Ave., S. E., Atlanta 3, Ga., Secretary.

Southwestern Surgical Congress, New Brown Palace Hotel, Denver, Mar. 30-Apr. 1. Dr. C. M. O'Leary, 1213 Medical Arts Bldg., Oklahoma City, Okla., Secretary.

April

Aero Medical Association, Hotel Statler, Los Angeles, Apr. 27-29. Dr. Thomas H. Sutherland, P. O. Box 26, Marion, Ohio, Secretary.

Alabama, Medical Association of the State of, Birmingham, Apr. 9-11. Mr. William A. Dozier, 17 Moulton Bldg., Montgomery, Executive Secretary.

American Academy of General Practice, San Francisco, Apr. 6-9. Mr. Mac F. Cahal, Volker Blvd., at Brookside, Kansas City 12, Mo., Executive Secretary.

American Academy of Neurology, Statler Hotel, Los Angeles, Apr. 13-18. Dr. Joseph M. Foley, Boston City Hosp., Boston, Secretary.

American Association of Anatomists, Seattle, Apr. 1-3. Dr. B. Flexner, Univ. of Pa., Med. School, Philadelphia 4, Secretary.

American Association for Cleft Palate Rehabilitation, Sheraton Hotel, Philadelphia, Apr. 30-May 2. Dr. D. C. Spriestersbach, Univ. Hosps., Iowa City, Ia., Secretary.

American Association of Genito-Urinary Surgeons, Seaview Country Club, Absecon, N. J., Apr. 15-17. Dr. William J. Engel, 2020 E. 93d St., Cleveland 6, Secretary.

American Association of Immunologists, Atlantic City, N. J., Apr. 13-17. Dr. Calderon Howe, 630 W. 168th St., New York 32, Secretary.

American Association of Pathologists and Bacteriologists, Somerset Hotel, Boston, Apr. 23-25. Dr. Russell L. Holman, 1542 Tulane Ave., New Orleans 12, Secretary.

American Association of Railway Surgeons, Drake Hotel, Chicago, Apr. 16-18. Dr. Chester C. Guy, 5800 Stony Island Ave., Chicago 37, Secretary.

American Association for the Study of Neoplastic Diseases, Hotel Greystone, Gatlinburg, Tenn., Apr. 30-May 4. Dr. Bruce H. Sisler, Box 268, Gatlinburg, Tenn., Secretary.

American Association for Thoracic Surgery, Statler Hotel, Los Angeles, Apr. 21-23. Dr. Hiram T. Langston, 7730 Carondelet Ave., St. Louis 5, Secretary.

American College of Obstetricians & Gynecologists, Traymore Hotel, Atlantic City, N. J., Apr. 5-9. Dr. John C. Ullery, 15 S. Clark St,. Chicago 3, Secretary.

American College of Physicians, Conrad Hilton Hotel, Chicago, Apr. 20-24. Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Executive Secretary.

American Goiter Association, Chicago, Apr. 30-May 2. Dr. John C. McClintock, 149½ Washington Ave., Albany, N. Y., Secretary.

American Physiological Society, Atlantic City, N. J., Apr. 12-16. Dr. Ray G. Daggs, 9650 Wisconsin Ave., Washington, D. C., Executive Secretary.

American Psychiatric Association, Civic Auditorium, Philadelphia, Apr. 27-May 1. Dr. C. H. Hardin Branch, 156 Westminster Ave., Salt Lake City, Secretary.

American Radium Society, The Homestead, Hot Springs, Va., Apr. 6-8. Dr. Robert L. Brown, 321 Robin Hood Dr., N. E., Atlanta, Ga., Secretary.

American Society of Biological Chemists, Atlantic City, N. J., Apr. 13-18. Dr. F. W. Putnam, Univ. of Fla. Medical School, Gainesville, Fla., Secretary.

American Society for Experimental Pathology, Atlantic City, N. J., Apr. 13-18. Dr. J. F. A. McManus, Univ. of Alabama Medical Center, Birmingham 3, Ala., Secretary.

American Society for Pharmacology and Experimental Therapeutics, Atlantic City, N. J., Apr. 13-17. Dr. Harold Hodge, Univ. of Rochester, Rochester 20, N. Y., Secretary.

American Society for the Study of Sterility, Shelburne Hotel, Atlantic City, N. J., Apr. 3-5. Dr. Herbert H. Thomas, 920 S. 19th St., Birmingham 5, Ala., Secretary.

American Surgical Association, Fairmont Hotel, San Francisco, Apr. 15-17. Dr. W. A. Altemeier, Cincinnati Gen. Hospital, Cincinnati 29, Secretary.

American Urological Association, Chalfonte-Haddon Hall, Atlantic City, N. J., Apr. 20-23. Dr. Samuel L. Raines, 188 S. Bellevue Blvd., Memphis, Tenn., Secretary.

Arizona Medical Association, San Marcos Hotel, Chandler, Apr. 28 May 2. Dr. Leslie B. Smith, 826 Security Bldg., Phoenix, Secretary.

Arkansas Medical Society, Goldman Hotel, Ft. Smith, Apr. 13-15. Mr. Paul C. Schaefer, 215 Kelley Bldg., Ft. Smith, Executive Secretary.

Hawaii Medical Association, Hilo, Apr. 23-25. Mr. Lee McCaslin, 510 S. Beretania St., Honolulu 13, Executive Secretary.

Industrial Medical Association, Sherman Hotel, Chicago, Apr. 26-29. Dr. Leonard Arling, 3101 University Ave., S. E., Minneapolis 14, Secretary.

Iowa State Medical Society, Savery Hotel, Des Moines, Apr. 19-22. Mr. Donald L. Taylor, 529 36th St., Des Moines, Executive Secretary.

Maryland Medical and Chirurgical Faculty of the State of, The Alcazar Hotel, Baltimore, Apr. 15-17. Mr. John Sargeant, 1211 Cathedral St., Baltimore, Executive Secretary.

Missouri State Medical Association, Kansas City, Apr. 5-8. Mr. T. R. O'Brien, 634 N. Grand Blvd., St. Louis, Executive Secretary.

Nebraska State Medical Association, Hotel Paxton, Omaha, Apr. 27-30. Mr. M. C. Smith, 1315 Sharp Bldg., Lincoln 8, Executive Secretary.

New Jersey, Medical Society of, Chalfonte-Haddon Hall, Atlantic City, Apr. 25-29. Mr. Richard I. Nevin, P. O. Box 904, Trenton, Executive

Ohio State Medical Association, Neil House, Columbus, Apr. 21-24. Mr. Charles S. Nelson, 79 E. State St., Columbus, Executive Secretary. Officer.

Oklahoma State Medical Association, Mayo Hotel, Tulsa, Apr. 19-22. Mr. R. H. Graham, P. O. Box 9696 Shartel Station, Oklahoma City, Executive Secretary.

Society of Neurological Surgeons, Waldorf-Astoria Hotel, New York, Apr. 27-28. Dr. Bronson S. Ray, 525 E. 68t hSt., New York 21, Secretary.

Southwest Allergy Forum, Shamrock-Hilton Hotel, Houston, Tex., Apr. 26-28. Dr. Richard H. Jackson, Suite 156, Hermann Professional Bldg., Houston 25, Tex., Secretary.

Student American Medical Association, Morrison Hotel, Chicago, Apr. 30-May 3. Mr. Russell F. Standacher, 430 N. Michigan, Chicago 11, Executive Secretary.

Tennessee State Medical Association, Peabody Hotel, Memphis, Apr. 12-15. Mr. Jack E. Ballentine, 112 Louise Ave., Nashville 5, Executive Secretary.

Texas Medical Association, San Antonio, Apr. 18-21. Mr. C. Lincoln Williston, 1801 N. Lamar Blvd., Anstin, Executive Secretary.

May

American Association for the History of Medicine, Wade Park Manor, Cleveland, May 21-23. Dr. John B. Blake, Smithsonian Institution, Washington 25, D. C., Secretary.

American Gynecological Society, The Homestead, Hot Springs, Va., May 25-27. Dr. Andrew A. Marchetti, 3800 Reservoir Rd., N. W., Washington 7, D. C., Secretary.

American Ophthalmological Society, The Homestead, Hot Springs, Va., May 28-30. Dr. Maynard C. Wheeler, 30 West 59th St., New York 19, Secretary.

American Pediatric Society, The Inn, Buck Hill Falls, Pa., May 6-8. Dr. A. C. McGuinness, 2800 Quebec St., Washington 8, D. C., Secretary.

American Psychosomatic Society, Chalfonte-Hadden Hall, Atlantic City, N. J., May 2-3. Dr. Morton F. Reiser, 265 Nassau Rd., Roosevelt, N. Y., Secretary.

American Society for Clinical Investigation, Haddon Hall, Atlantic City, N. J., May 3-4. Dr. S. J. Farber, 350, 1st Ave., New York 16, Secretary.

American Society of Maxillofacial Surgeons, Palmer House, Chicago, May 10-14. Dr. Orion H. Stuteville, 700 N. Michigan, Chicago 11, Secretary.

American Trudeau Society, Palmer House, Chicago, May 25-27. Dr. E. P. K. Fenger, 1790 Broadway, New York 19, Secretary.

Association of American Physicians, Haddon Hall, Atlantic City, N. J., May 5-6. Dr. Paul B. Beeson, Yale Univ. School of Medicine, New Haven 11, Conn., Secretary.

Florida Medical Association, Americana Hotel, Miami Beach, May 2-6. Mr. Ernest R. Gibson, P. O. Box 2411, Jacksonville 3, Managing Director.

Georgia, Medical Association of, Bon Air Hotel, Augusta, May 17-20. Mr. Milton D. Kreuger, 875 W. Peachtree St., N. W., Atlanta, Executive Secretary.

Illinois State Medical Society, Hotel Sherman, Chicago, May 19-22. Dr. Harold M. Camp, 224 S. Main St., Monmouth, Secretary.

Kansas Medical Society, Jayhawk Hotel, Topeka, May 3-7. Mr. Oliver E. Ebel, 315 W. 4th St., Topeka, Executive Secretary.

Louisiana State Medical Society, Roosevelt Hotel, New Orleans, May 4-6. Dr. C. Grenes Cole, 1430 Tulane Ave., New Orleans 12, Executive Secretary.

Massachusetts Medical Society, Hotel Statler, Boston, May 19-21. Dr. Robert W. Buck, 22 The Fenway, Boston 15, Secretary.

Mississippi State Medical Association, Hotel Buena Vista, Biloxi, May 12-14. Mr. Rowland B. Kennedy, 735 Riverside Dr., Jackson, Executive Secretary.

National Tuberculosis Association, Palmer House, Chicago, May 24-29. Mrs. Wallace B. White, 1790 Broadway, New York 19, Secretary.

New Mexico Medical Society, Mission Mote, Las Cruces, May 5-7. Mr. Ralph R. Marshall, 221 W. Central Ave., Albuquerque, Executive Secretary.

New York, Medical Society of the State of, Hotel Statler, Buffalo, May 9-15. Dr. Walter P. Anderton, 386 Fourth Ave., New York 16, Secretary.

North Carolina, Medical Society of the State of, George Vanderbilt Hotel, Asheville, May 3-6. Mr. James T. Barnes, 203 Capitol Club Bldg., Raleigh, Executive Director.

North Dakota State Medical Association, Prince Hotel, Bismarck, May 2-5. Mr. Lyle A. Limond, Box 1198, Bismarck, Executive Secretary.

Society of American Bacteriologists, Sheraton Jefferson Hotel, St. Louis, May 10-15. Dr. E. M. Foster, University of Wisconsin, Madison 6, Wis., Secretary.

Society for Pediatric Research, The Inn, Buck Hill Falls, Pa., May 8-9. Dr. Clark D. West, Children's Hosp., Cincinnati 29, Secretary.

Wisconsin, State Medical Society of, Hotel Schroeder, Milwaukee, May 5-7. Mr. Charles H. Crownhart, P. O. Box 1109, Madison 1, Secretary.

June

American Academy of Tuberculosis Physicians, Atlantic City, N. J., June 6. Dr. Oscar S. Levin, P. O. Box 7011, Denver 6, Secretary.

(Continued on page 30)

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1. Tietze, C.: Proceedings, Third International Conference Planned Parenthood, 1953.

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AMERICAN COLLEGE OF CHEST PHYSICIANS, Atlantic City, N. J., June 3-7. Mr. Murray Kornfeld, 112 E. Chestnut St., Chicago 11, Executive Director.

AMERICAN DERMATOLOGICAL ASSOCIATION, Claridge Hotel, Atlantic City, N. J., June 1-4. Dr. Wiley M. Sams, 25 Southeast 2d Ave., Miami, Fla., Secretary.

AMERICAN DIABETES ASSOCIATION, Chalfonte-Haddon Hall, Atlantic City, N. J., June 6-7. Dr. E. Paul Sheridan, 1 East 45th St., New York 17, Secretary.

AMERICAN GERIATRICS SOCIETY, Hotel Traymore, Atlantic City, N. J., June 4-5. Dr. Richard J. Kraemer, 2907 Post Rd., Warwick, R. I., Secretary.

AMERICAN MEDICAL WOMEN'S ASSOCIATION, Sheraton Ritz Carlton Hotel, Atlantic City, N. J., June 4-7. Miss Lillian T. Majally, 1790 Broadway, New York 19, Executive Secretary.

AMERICAN NEUROLOGICAL ASSOCIATION, Claridge Hotel, Atlantic City, N. J., June 15-17. Dr. Charles Rupp, 133 S. 36th St., Philadelphia 4, Secretary.

AMERICAN ORTHOPEDIC ASSOCIATION, Lake Placid Club, Lake Placid, N. Y., June 16-18. Dr. Lee Ramsay Straub, 715 Lake St., Oak Park, Ill., Secretary.

AMERICAN PROCTOLOGIC SOCIETY, Shelburne Hotel, Atlantic City, N. J., June 15-18. Dr. Norman D. Nigro, 10 Peterboro St., Detroit 1, Secretary.

SOCIETY OF BIOLOGICAL PSYCHIATRY, Claridge Hotel, Atlantic City, N. J., June 13-14. Dr. George N. Thompson, 2010 Wilshire Blvd., Los Angeles 57, Secretary.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION, Sheraton Johnson Hotel, Rapid City, June 20-23. Mr. John C. Foster, 300, 1st National Bank Bldg., Sioux Falls, Executive Secretary.

INTERNATIONAL AND FOREIGN

September

COLLEGIUM INTERNATIONAL NEURO-PSYCHOPHARMACOLOGICUM, Rome, Italy, Sept. 9-12. For information address: Dr. Herman C. B. Denber, Secretary, Manhattan State Hosp., Ward's Island 35, New York, N. Y., U. S. A.

INTERNATIONAL ASSOCIATION FOR THE PREVENTION OF BLINDNESS, Brussels, Belgium, Sept. 8-15. Dr. J. P. Mailliart, 47 rue de Bellechasse, Paris 7e, France, Secretary-General.

INTERNATIONAL CONGRESS OF ANGIOLOGY AND HISTOPATHOLOGY, San Remo, Italy, Sept. 24-28. Dr. L. Gerson, 4 rue Pasquier, Paris 8e, France, Secretary-General.

INTERNATIONAL CONGRESS OF BALNEOLOGY, Marianske Lazne, Marienbad, Czechoslovakia, Sept. 8-13. For information address: Secretary, International Congress of Balneology, Reznicka 5, Prague 2, Czechoslovakia.

INTERNATIONAL CONGRESS OF BIOCHEMISTRY, Vienna, Austria, Sept. 1-6. For information address: Dr. O. Hoffmann-Ostenhof, Währingerstrasse, 42, Vienna IX, Austria.

INTERNATIONAL CONGRESS ON DISEASES OF THE CHEST, Tokyo, Japan, Sept. 7-11. For information address: Prof. Andrew L. Banvai, Council on International Affairs, American College of Chest Physicians, 112 E. Chestnut St., Chicago, Ill., U. S. A.

INTERNATIONAL CONGRESS ON THE HISTORY OF MEDICINE, Montpellier, France, Sept. 22-23. For information address: Dr. F. A. Sondervorst, 124 Avenue des Allies, Louvain, Belgium.

INTERNATIONAL CONGRESS OF HYDATID DISEASES, Beirut, Lebanon, Sept. 20-22. For information address: Dr. Elias Sader, rue Ibrahim Ahdab, Beirut, Lebanon.

INTERNATIONAL CONGRESS OF OPTHALMOLOGY, Brussels, Belgium, Sept. 8-12. Prof. Jules Francois, 15 Place de Smet de Naeyer, Ghent, Belgium, Secretary-General.

INTERNATIONAL CONGRESS OF PSYCHOTHERAPY, Barcelona, Spain, Sept. 1-7. For information address: Dr. Mariano de la Cruz, Clinica Psiquiatrica Universitaria, Faculty of Medicine, Barcelona, Spain.

INTERNATIONAL CONGRESS OF TROPICAL MEDICINE AND MALARIA, Lisbon, Portugal, Sept. 5-13. Prof. Manuel R. Pinto, Instituto de Medicina Tropical, Lisbon, Portugal, Secretary-General.

INTERNATIONAL SOCIETY OF BRONCHOESOPHAGOLOGY, Kyoto, Japan, Sept. 12-15. Dr. Chevalier L. Jackson, 3401 N. Broad St., Philadelphia 40, Pa., U. S. A., Secretary.

INTERNATIONAL SOCIETY OF CARDIOLOGY, Brussels, Belgium, Sept. 14-21. Dr. F. van Dooren, 80 rue Mercelis, Brussels, Belgium, Secretary-General.

INTERNATIONAL SOCIETY OF HEMATOLOGY, Rome, Italy, Sept. 7-13. Dr. Sol Heberman, 3500 Gaston Ave., Dallas, Tex., U. S. A., Secretary-General.

INTERNATIONAL VETERINARY CONGRESS, Brussels, Belgium, Sept. 6-7. Dr. Jac Jensen, Beltstraat, 168, Utrecht, Netherlands, General Secretary.

October

CANADIAN SOCIETY FOR THE STUDY OF FERTILITY, London, Ont., Canada, Oct. 31-Nov. 1. Dr. Jean F. Campbell, 238 Queen's Ave., London, Ont., Canada, Secretary.

INTERNATIONAL CONGRESS OF ALLERGOLOGY, Paris, France, Oct. 19-26. Dr. Samuel M. Feinberg, 303 E. Chicago Ave., Chicago 11, Ill., U. S. A., President.

INTERNATIONAL CONGRESS OF COMPARATIVE PATHOLOGY, Munich, Germany, Oct. For information address: Dr. Louis Grollet, 7, rue Gustave Nadaud, Paris 16, France.

INTERNATIONAL CONGRESS OF MEDICAL HYDROLOGY, Madrid, Spain, Oct. 22-30. For information address: Dr. Francon, 55, rue des Mathurins, Paris 8, France.

INTERNATIONAL SOCIETY ON AUDIOLOGY, Padua, Italy, Oct. 2-5. Prof. Arslan, Clinique O. R. L., Universitaire, Padua, Italy.

LATIN AMERICAN CONGRESS ON MENTAL HEALTH, Lima, Peru, Oct. Dr. Baltazar Caravedo, Avenida del Golf 1040, San Isidro, Lima, Peru, Secretary-General.

November

BAHAMAS MEDICAL CONFERENCE, British Colonial Hotel, Nassau, Bahamas, Nov. 28-Dec. 18. For information write: Dr. B. L. Frank, 23 E. 79th St., New York 21, New York, U. S. A.

INTER-AMERICAN CONGRESS OF RADIOLOGY, Lima, Peru, Nov. 2-8. Dr. Jorge de la Flor, Hospital Arzobispo, Loayza, Lima, Peru, Secretary.

PAKISTAN MEDICAL CONFERENCE, Dacca, East Pakistan, Nov. 23-27. Dr. K. S. Alam, 35, Nazimuddin Road, Dacca, East Pakistan, Conference Secretary.

December

BAHAMAS SURGICAL CONFERENCE, British Colonial Hotel, Nassau, Bahamas, Dec. 29-Jan. 17. For information write: Dr. B. L. Frank, 23 E. 79th St., New York 21, New York, U. S. A.

INTERNATIONAL LEPROSY CONGRESS, New Delhi, India, Dec. 8-14. Dr. Dharmendra, Leprosy Research Dept., School of Tropical Med., Calcutta 12, India, Secretary.

1959

February

CENTRAL SURGICAL ASSOCIATION, Montreal, Can., Feb. 19-21. Dr. A. D. McLachlin, Victoria Hosp., London, Ontario, Secretary.

SOCIETY OF UNIVERSITY SURGEONS, Denver, Colo., Feb. 12-14. Dr. James D. Hardy, Univ. Medical Center, Jackson, Miss., Secretary.

April

CONGRESS OF INTERNATIONAL ANESTHESIA RESEARCH SOCIETY, Miami Beach, Fla., U. S. A., Apr. 20-23. Dr. A. William Friend, East 107 & Park Lane, Cleveland 6, Ohio, U. S. A., Executive Secretary.

May

CONFERENCE ON INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC, Dusseldorf, Germany, May 2-9. For information address: Secretary-General, 92, rue St. Denis, Paris 1, France.

June

INTERNATIONAL FERTILITY ASSOCIATION, Amsterdam, Netherlands, June 7-13. Dr. Carlos Nouel, 4 Agnietenstr, Amsterdam, Netherlands, Secretary-General.

INTERNATIONAL HOSPITAL CONGRESS, Edinburgh, Scotland, June 1-6. Capt. J. E. Stone, 34 King St., London, E. C. 2, England, Secretary-General.

July

CANADIAN MEDICAL ASSOCIATION, Edinburgh, Scotland, July 16-24. Dr. A. D. Kelly, 150 St. George St., Toronto 5, Ont., General Secretary.

INTERNATIONAL CONGRESS OF PEDIATRICS, Montreal, Que., July 19-25. For information address: Dr. R. L. Denton, 2300 Tupper St., Montreal 25, Que.

INTERNATIONAL CONGRESS OF PLASTIC SURGERY, London, England, July 13-17. Mr. David Matthews, 152 Harley St., London, W. 1, England, Secretary-General.

INTERNATIONAL CONGRESS OF RADIOLOGY, Munich, Germany, July 23-30. Prof. Hans v. Braunbehrens, Frankfurt am Main, Forsthausstrasse 76, Germany, General Secretary.

INTERNATIONAL PSYCHOANALYTICAL ASSOCIATION, Copenhagen, Denmark, July 26-30. Miss Pearl King, 37 Albion St., London, W. 2, England, Secretary-General.

August

INTERNATIONAL ASSOCIATION OF LIMNOLOGY, Vienna & Salzburg, Austria, Aug. 20-Sept. 8. For information address: Secretary, Biologische Station, Lunz am See, Austria.

INTERNATIONAL CONGRESS FOR THE HISTORY OF SCIENCE, Barcelona & Madrid, Spain, Aug. 30-Sept. 6. Prof. J. Vernet, Universidad de Barcelona, Barcelona, Spain, Secretary-General.

INTERNATIONAL CONGRESS OF PHYSIOLOGICAL SCIENCES, Buenos Aires, Argentina, Aug. 9-15. A. O. M. Stoppani, Facultad de Ciencias Medicas, Paraguay 2151, Buenos Aires, Argentina.

INTERNATIONAL CONGRESS FOR SPEECH AND VOICE THERAPY, London, England, Aug. 17-22. Miss M. Carter, 46 Cannonbury Square, London, N. 1, England, Secretary.

WORLD CONFERENCE ON MEDICAL EDUCATION, Palmer House, Chicago, Ill., U. S. A., Aug. 30-Sept. 4. For information address: Dr. Louis H. Bauer, 10 Columbus Circle, New York 19, N. Y., U. S. A.

September

CONGRESS OF INTERNATIONAL UNION OF RAILWAY MEDICAL SERVICES, Lucerne, Switzerland, Sept. 21-24. Dr. J. Ortega, 13, rue de Chateau-London, Paris 10, France, Secretary-General.

EUROPEAN CONGRESS OF ALLERGY, London, England, Sept. 2-4. For information address: British Association of Allergists, Wright-Fleming Institute, St. Mary's Hospital, London, W. 2, England.

INTERNATIONAL LEAGUE AGAINST RHEUMATISM, Istanbul, Turkey, Sept. 18-21. For information write: Prof. Hami Kocas, Medical School, Ankara, Turkey.

INTERNATIONAL TUBERCULOSIS CONFERENCE, Istanbul, Turkey, Sept. 11-18. Dr. T. I. Gokce, Selime Hatun, Mezarlik Sokak, Taksim, Istanbul, Turkey, Secretary-General.

INTERNATIONAL UNION OF THE MEDICAL PRESS, Cologne, Germany, Sept. 21-24. Dr. Stockhausen, Secretary of Bundesaerztekammer, Cologne, Germany.

WORLD CONGRESS FOR PHYSICAL THERAPY, Paris, France, Sept. 6-12. For information write: Miss M. J. Neilson, Tavistock House, Tavistock Square, London, W. C. 1, England.

1960

January

PAN AMERICAN CONGRESS OF OPHTHALMOLOGY, Caracas, Venezuela, Jan. 31-Feb. 7. For information address: Dr. Moacyr, E. Alvaro, 1151 Consolacao, Sao Paulo, Brazil.

(Continued on page 32)

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1. Alexander, L.: Chemotherapy of depression—Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958. 2. Current personal communications; in the files of Wallace Laboratories.

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HOW TO HELP A PROBLEM DRINKER. Understanding the alcoholic's capabilities, the necessity of help, causes of his condition. by Edward A. Strecker and Francis T. Chambers, Jr.

THE TREATMENT OF ALCOHOLISM. Tracing the steps from convincing the alcoholic that he is sick through treatment and cure. by Lewis Inman Sharp.

CONDITIONED REFLEX TREATMENT OF CHRONIC ALCOHOLISM. Its place among methods of treatment today, its development and correlation with personality factors. by Walter L. Voegtlin.

INSTITUTIONAL FACILITIES FOR THE TREATMENT OF ALCOHOLISM. Comparative differences, in drinking, with the last century, new establishments and methods of treatment, lack of trained personnel. by E. H. L. Corwin.

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AMERICAN MEDICAL ASSOCIATION

535 N. DEARBORN ST., CHICAGO 10, ILLINOIS

June

CANADIAN MEDICAL ASSOCIATION, Banff, Alberta, June 13-17. Dr. A. D. Kelly, 150 St. George St., Toronto 5, Ont., General Secretary.

INTERNATIONAL CONGRESS OF CLINICAL PATHOLOGY, Madrid, Spain, June 13-17. Dr. J. Aparicio Garrido, Sandoval 7, Madrid, Spain, Secretary-General.

INTERNATIONAL CONGRESS OF PHYSIO-PATHOLOGY OF ANIMAL REPRODUCTION AND ARTIFICIAL INSEMINATION, Amsterdam, Netherlands, June 13-17. Dr. J. Edwards, Milk Marketing Board, Thames, Surrey, England, Secretary.

July

INTERNATIONAL CONGRESS AGAINST ALCOHOLISM, Stockholm, Sweden, July 31-Aug. 5. Dr. Archer Tongue, Case Gare 49, Lausanne, Switzerland, Secretary-General.

INTERNATIONAL CONGRESS ON GOITER, London, England, July 6-8. For information write: Dr. John C. McClintock, 149½ Washington Ave., Albany, N. Y., U. S. A.

INTERNATIONAL CONGRESS ON OCCUPATIONAL HEALTH, Waldorf-Astoria, New York, N. Y., U. S. A., July 25-29. Dr. Leo Wade, 15 West 51st St., New York, N. Y., U. S. A., Chairman.

August

INTERNATIONAL CONGRESS OF CLINICAL CHEMISTRY, Edinburgh, Scotland, Aug. 14-19. For information address: Dr. S. C. Frazer, Clinical Laboratory, Royal Infirmary, Edinburgh, Scotland.

INTERNATIONAL CONGRESS OF GERONTOLOGY, San Francisco, Calif., U. S. A., Aug. 7-14. Mr. Louis Kuplan, 722 Capitol Ave., Sacramento, Calif., U. S. A., Executive Secretary

INTERNATIONAL CONGRESS OF PHYSICAL MEDICINE, Washington, D. C., U. S. A., Aug. 21-26. For information write: Dr. W. J. Zeiter, 2020 E. 93d St., Cleveland, Ohio, U. S. A.

INTERNATIONAL SOCIETY OF HEMATOLOGY, Tokyo, Japan, Aug. 25. For information write: Dr. Sol Haberman, 3500 Gaston Ave., Dallas, Tex., U. S. A.

WORLD CONGRESS OF THE INTERNATIONAL SOCIETY FOR THE WELFARE OF CRIPPLES, New York, N. Y., U. S. A., Aug. 29-Sept. 2. Mr. Donald V. Wilson, 701 First Ave., New York 17, N. Y., U. S. A., Secretary-General.

September

CONGRESS OF INTERNATIONAL SOCIETY FOR CELL BIOLOGY, Paris, France, Sept. 7-9. For information write: Prof. Chevremont, 20, rue de Pitteurs, Liege, Belgium.

CONGRESS OF INTERNATIONAL SOCIETY OF ORTHOPEDIC SURGERY & TRAUMATOLOGY, New York, N. Y., U. S. A., Sept. 7-9. For information address: International Society of Orthopedic Surgery & Traumatology, 34 rue Montoyer, Brussels, Belgium.

INTERNATIONAL CONGRESS OF CRIMINOLOGY, The Hague, Netherlands, Sept. 7-9. For information address: Sosiete Internationale de Criminologie, 28 avenue de Friedland, Paris 8e, France.

INTERNATIONAL CONGRESS OF NUTRITION, Washington, D. C., U. S. A., Sept. 1-7. Dr. Milton O. Lee, 9650 Wisconsin Ave., Washington 14, D. C., U. S. A., General Secretary.

INTERNATIONAL SOCIETY OF GEOGRAPHICAL PATHOLOGY, London, England, Sept. 7-9. Prof. Fred C. Roulet, 174 Albanrheinweg, Basle, Switzerland, Secretary-General.

WORLD CONGRESS OF ANESTHESIOLOGISTS, Toronto, Ont., Sept. 4-10. For information write: Dr. R. A. Gordon, 516 Medical Arts Bldg., Toronto 5, Ont.

MAGAZINE—TELEVISION REPORT

The following list of current medical articles in mass-circulation magazines on medical subjects is published each week only for the information of readers of THE JOURNAL. *Unless specifically stated, the American Medical Association neither approves nor disapproves of the articles reported.*

MAGAZINES

Consumer Reports, September, 1958

"Radiation Hazards from Fallout and X rays"

In this comprehensive review concerning radiation hazards, the article says that "medical X ray is at present a more important contributor than fallout to radiation exposure of individuals in North America and western Europe. A substantial part of this exposure, furthermore, is believed to result from unnecessary or poorly performed X ray examinations and treatments, and the use of obsolete or improperly functioning equipment." The sources of radiation, fall-out danger, biological effects, and fluoroscopy are also discussed.

Household, September, 1958

"Strokes," by Lawrence Galton

The causes and latest treatments for strokes are discussed in this review. According to the article, cortisone is producing striking results if administered immediately after a stroke. The more severe the stroke, the more noteworthy the benefits from this drug.

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*Council on Pharmacy and Chemistry: New and Nonofficial Remedies, Philadelphia, J. B. Lippincott Co., 1956, p. 505.

LIST OF STATE MEDICAL ASSOCIATIONS

SOCIETY	PRESIDENT	EXECUTIVE OFFICER	ANNUAL MEETING
Alabama, Med. Assn. of the State of	Edgar V. Givhan, Birmingham	Mr. W. A. Dozier Jr., 17 Molton Bldg., Montgomery	Birmingham, Apr. 9-11
Alaska Territorial Medical Assn.	William M. Whitehead, Juneau	Robert B. Wilkins, 1121 Fourth Ave., Anchorage	Juneau, Mar. '59
Arizona Medical Association	W. R. Manning, Tucson	Leslie B. Smith, 826 Security Bldg., Phoenix	Chandler, Apr. 28-May 2
Arkansas Medical Society	Louis K. Hundley, Pine Bluff	Mr Paul C. Schaefer, 215 Kelley Bldg., Ft. Smith	Ft. Smith, Apr. 13-15
California Medical Association	Francis E. West, San Diego	Mr. John Hurton, 450 Sutter St., San Francisco 8	San Francisco, Feb. 22-25
Colorado State Medical Society	Clare C. Wiley, Longmont	Mr. H. T. Sethman, 835 Republic Bldg., Denver 2	Colorado Springs, Sept. 25-28
Connecticut State Medical Society	Walter I. Russell, New Haven	William R. Richards, 160 St. Ronan St., New Haven	
Delaware, Medical Society of	John B. Baker, Milford	N. L. Cannon, 621 Delaware Ave., Wilmington	
District of Columbia, Med. Soc. of	James W. Watts, Washington 6	Mr. T. Wiprud, 1718 M St. N.W., Washington 6	Washington, Nov. 24-26
Florida Medical Association	Jere W. Annis, Lakeland	Mr. Ernest R. Gibson, P.O. Box 2411, Jacksonville 1	Miami Beach, May 2-6
Georgia, Medical Association of	Lee Howard, Sr., Savannah	Mr M. D. Krueger, 875 W. Peachtree St., N.E., Atlanta	Augusta, May 17-20
Hawaii Medical Association	William N. Bergin, Hilo	Satoru Nishijima, 510 S. Beretania St., Honolulu	Hilo, Apr. 23-25
Idaho State Medical Association	Hoyt B. Woolley, Idaho Falls	Mr. Armand L. Bird, 364 Sonna Bldg., Boise	
Illinois State Medical Society	Raleigh C. Oldfield, Oak Park	Harold M. Camp, 224 S. Main St., Monmouth	Chicago, May 19-22
Indiana State Medical Association	M. C. Topping, Terre Haute	Mr. James A. Waggener, 23 E. Ohio St., Indianapolis 4	Indianapolis, Oct. 13-15
Iowa State Medical Society	Walter D. Abbott, Des Moines 9	Mr. Donald L. Taylor, 529 36th St., Des Moines 12	Des Moines, Apr. 19-22
Isthmian Canal Zone, Med. Assn. of	Col. Francis Wilson, Ft. Clayton	William T. Bailey, Box 2095, Balboa Heights	
Kansas Medical Society	T. P. Butcher, Emporia	Mr. Oliver E. Ebel, 315 W. Fourth St., Topeka	Topeka, May 3-7
Kentucky State Medical Association	Edward B. Mersch, Covington	Mr. J. P. Sanford, 1109 Eastern Pkwy., Louisville 17	Louisville, Sept. 23-25
Louisiana State Medical Society	A. D. Long, Baton Rouge	C. Grenes Cole, 1430 Tulane Ave., New Orleans 12	New Orleans, May 4-6
Maine Medical Association	Eugene E. O'Donnell, Portland	D. F. Hanley, P.O. Box 240, Brunswick	
Maryland, Med. and Chir. Faculty of	J. Sheldon Eastland, Baltimore	John Sargeant, 1211 Cathedral St., Baltimore	Baltimore, Apr. 15-17
Massachusetts Medical Society	Charles C. Lund, Boston 15	Robert W. Buck, 22 The Fenway, Boston 15	Boston, May 19-21
Michigan State Medical Society	G. W. Slagle, Battle Creek	L. F. Foster, P.O. Box 539, Lansing 3	Detroit, Sept. 30-Oct. 3
Minnesota State Medical Association	H. B. Sweetser, Minneapolis 2	Mr. R. R. Rosell, 496 Lowry Med. Arts Bldg., St. Paul 2	Duluth, '59
Mississippi State Medical Association	Guy T. Vise, Meridian	Mr. R. B. Kennedy, 735 Riverside Dr., Jackson	Biloxi, May 12-14
Missouri State Medical Association	W. F. Francka, Hannibal	Mr. T. R. O'Brien, 634 N. Grand Blvd., St. Louis 3	Kansas City, Apr. 5-8
Montana Medical Association	John A. Layne, Great Falls	Mr. L. R. Hegland, P.O. Box 1692, Billings	Billings, Sept. 11-13
Nebraska State Medical Association	Fay Smith, Imperial	Mr. M. C. Smith, 1315 Sharp Bldg., Lincoln 8	Omaha, Apr. 27-30
Nevada State Medical Association	Stanley L. Hardy, Las Vegas	Mr. Nelson B. Neff, P.O. Box 188, Reno	Elko, Sept. 17-20
New Hampshire Medical Society	Arthur W. Burnham, Lebanon	Mr. Hamilton S. Putnam, 18 School St., Concord	Bretton Woods, Sept. 19-22
New Jersey, Medical Society of	Kenneth E. Gardner, Bloomfield	Mr. Richard I. Nevin, P.O. Box 904, Trenton 5	Atlantic City, Apr. 25-29
New Mexico Medical Society	James C. Sedgwick, Las Cruces	Mr. R. R. Marshall, 221 W. Central Ave., Albuquerque	Las Cruces, May 5-7
New York, Med. Soc. of the State of	Leo E. Gibson, Syracuse	W. P. Anderton, 750 Third Ave., New York 17	Buffalo, May 9-15
N. Carolina, Med. Soc. of the State of	Lenox D. Baker, Durham	Mr. James T. Barnes, 203 Capitol Club Bldg., Raleigh	Asheville, May 3-6
North Dakota State Medical Assn.	O. A. Sedlak, Fargo	Mr. Lyle Limond, Box 1198, Bismarck	Bismarck, May 2-5
Ohio State Medical Association	G. A. Woodhouse, Pleasant Hill	Mr. C. S. Nelson, 79 East State St., Columbus 15	Columbus, Apr. 21-24
Oklahoma State Medical Association	E. C. Mohler, Ponca City	Mr. R. H. Graham, P.O. Box 9696, Shartel Station, Okla City	Tulsa, Apr. 19-22
Oregon State Medical Society	Vern W. Miller, Salem	Max H. Parrott, 1115 S.W. Taylor St., Portland	Portland, Sept. 3-5
Pennsylvania, Med. Soc. of State of	John W. Shirer, Pittsburgh 13	Mr. Lester H. Perry, 230 State St., Harrisburg	Philadelphia, Oct. 12-17
Puerto Rico Medical Association	L. R. Guzman-Lopez, Santurce 29	Mr. J. A. Sanchez, Box 9111, Santurce	Santurce, Nov. 18-22
Rhode Island Medical Society	Frances B. Sargent, Providence 6	Thomas Perry Jr., 154 Waterman St., Providence 6	
South Carolina Medical Association	R. L. Crawford, Lancaster	Mr. M. L. Meadors, 309 W. Evans St., Florence	
South Dakota State Medical Assn.	A. A. Lampert, Rapid City	Mr. J. C. Foster, 1st Nat'l Bank Bldg., Sioux Falls	Rapid City, June 20-23
Tennessee State Medical Association	J. C. Gardner, Nashville	Mr. Jack E. Ballentine, 112 Louise Ave., Nashville 5	Memphis, Apr. 12-15
Texas Medical Association	Howard O. Smith, Marlin	Mr. C. L. Williston, 1801 N. Lamar Blvd., Austin	San Antonio, Apr. 18-21
Utah State Medical Association	Reed W. Farnsworth, Cedar City	Mr. H. Bowman, 42 S. Fifth East, Salt Lake City 2	Salt Lake City, Sept. 9-12
Vermont State Medical Society	James P. Hammond, Bennington	Mr. Getty Page, 128 Merchants Row, Rutland	Bretton Woods, N.H., Sept. 20-22
Virginia, Medical Society of	H. C. Bates Jr., Arlington 3	Mr. R. I. Howard, 1105 W. Franklin St., Richmond 20	Richmond, Oct. 12-15
Washington State Medical Assn.	Milo T. Harris, Spokane	Frederick A. Tucker, 1309 Seventh Ave., Seattle 1	Spokane, Sept. 14-17
West Virginia State Medical Assn.	Charles A. Hoffman, Huntington	Mr. Charles Lively, Box 1031, Charleston 24	
Wisconsin, State Medical Society of	Jerome W. Fons, Milwaukee	Mr. C. H. Crownhart, P.O. 1109, Madison 1	Milwaukee, May 5-7
Wyoming State Medical Society	L. B. Wilmoth, Lander	Mr. Arthur Abbey, Box 2096, Cheyenne	

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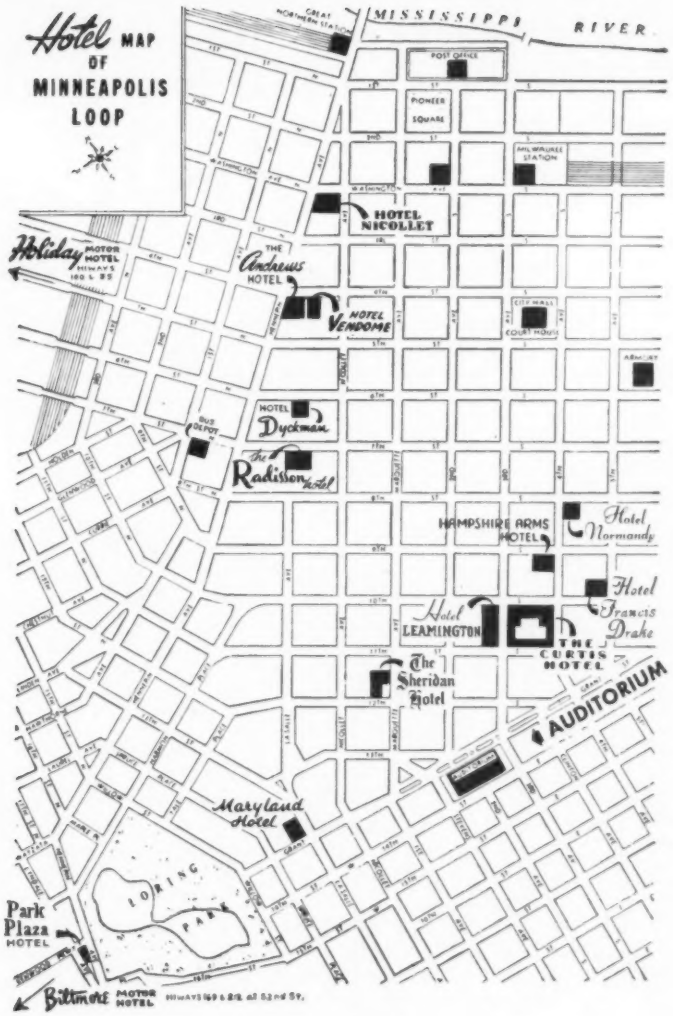

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FROM OTHER PAGES

Medical Practice in Colonial America

In the late winter of 1775 some inhabitants of Northampton County in Northeastern Pennsylvania sent a petition to the Assembly at Philadelphia. "Many Parts" of their county, they complained, were "infested with a Set of Men, who taking upon them the Offices of Physicians and Surgeons, (though in Reality no better than Empiricks or Quacks) administer Drugs so unskillfully and ignorantly, that some Persons have, in all Probability, thereby lost their Lives, and others been rendered Cripples." To protect themselves from all such, the petitioners asked for a law to forbid any, "except those of established and unquestionable Reputation," to practice medicine or surgery "until he or they have first undergone an Examination before two or more skilful and judicious Physicians of the City of Philadelphia"; the results of this examination, if favorable, to be reported to two or more judges of the Supreme Court, who would issue a certificate accordingly. . . . The plaint of these Pennsylvanians was not an uncommon one in eighteenth century America. Certainly the conditions they complained of were general enough. . . .

Throughout the colonial period, to be sure, in most of the large towns there were always one or two physicians who had spent some time in a European medical school. Cadwalader Colden, who practiced in Philadelphia for ten years early in the eighteenth century before going to New York, was an Edinburgh graduate. At Newport in 1744 Dr. Alexander Hamilton, another Edinburgh graduate, was entertained by Dr. Moffatt, a graduate of Edinburgh, and by Dr. John Brett, who had been at Leyden. In Boston Dr. William Douglass never let his hearers forget that he had studied at Leyden and Utrecht and in a published dissertation had once sneered at the great Boerhaave as merely a devourer of books. When they were at all properly trained, these European physicians gave their patients medical care at least as good as that received by the citizens of English provincial towns, and infinitely superior to that to which most of the London poor were exposed.

But being bred at Leyden or Edinburgh was no guarantee of professional competence. Some men, with no more than a single short winter's course in Holland, assumed a medical degree on crossing the ocean. Moreover, the graduate of Edinburgh might find he was the only properly qualified physician in the American town where he settled, the only physician of any kind for miles around if he chose the country. Without the benefit of professional conversation and professional criticism, his ideas and practice tended to become rigid, even to deteriorate. Thus one Virginia Physician, trained under the apprenticeship system, wrote sarcastically of "those selfswolen sons of pedantic absurdity, fresh & raw from that universal asylum of medical perfection, Edinburgh, . . . [who] enter with obstinate assurance upon the old round of obsolete prescription, which their infallible masters taught them, &, like the mule that turns aside for no man, push on in their bloody career." . . .

Whether good or bad, Europe-trained physicians, however, were always a minority in the colonies. Only one of Boston's ten practitioners in 1720 had a foreign degree, and J. M. Toner found that only one in nine Virginia physicians of the eighteenth century had attended a medical school. A grammar school or academy, then apprenticeship to an older doctor (who was himself likely to have learned medicine as an apprentice) formed the usual pattern. To be sure, an observant lad, with intelligence and good sense, could acquire a good deal of medical knowledge from an experienced and conscientious master, and become a successful practitioner. But apprentices were not always observant or masters experienced. . . .

Next after the men trained as apprentices were the apothecaries, merchants who, called on to prescribe for their customers, might, and often did, teach themselves a good deal of medicine. Here the danger was not only ignorance, but avarice, for, as tradesmen, the apothecaries were interested in selling as many nostrums as possible. "How dismal is it to observe some apothecaries shops wainscotted or papered with advertisements, recommending quack medicines for the profit of the shop, but destruction of their neighbours?" exclaimed Douglass indignantly. "This is vending of poisons for gain." An interesting development occurred in the history of the apothecaries in eighteenth century America. Some of them in the second third of the century began to move out of the ranks of the merchants into those of the physicians. The elder William Shippen of Philadelphia, for example, advertised himself in the 1730's as a chemist and drug-seller at the Sign of Paracelsus' Head; in 1749, with two or three other apothecaries, he joined the regularly-trained physicians of the city in signing a public statement on behalf of the "practitioners in physick." He was "Doctor" Shippen thereafter. Still a third group (if that word may be used of so varied a lot) of practitioners provided for the medical needs of American colonists. This included persons who had abandoned weaving, or black-smithing, or almanac-making to practice medicine. . . . One "doctor" of this sort, a rude fellow in a worsted cap, accosted Dr. Alexander Hamilton at Huntington, Connecticut. He had been a shoemaker, and a good one, Hamilton learned, "but happening two years agoe to cure an old woman of a pestilent mortal disease, he thereby acquired the character of a physitian, was applied to from all quarters, and finding the practice of physick a more profitable business than cobling, he laid aside his awls and leather, got himself some gallipots, and . . . fell to cobling of human bodies."—W. J. Bell Jr., Medical Practice in Colonial America, *Bulletin of the History of Medicine*, September-October, 1957.

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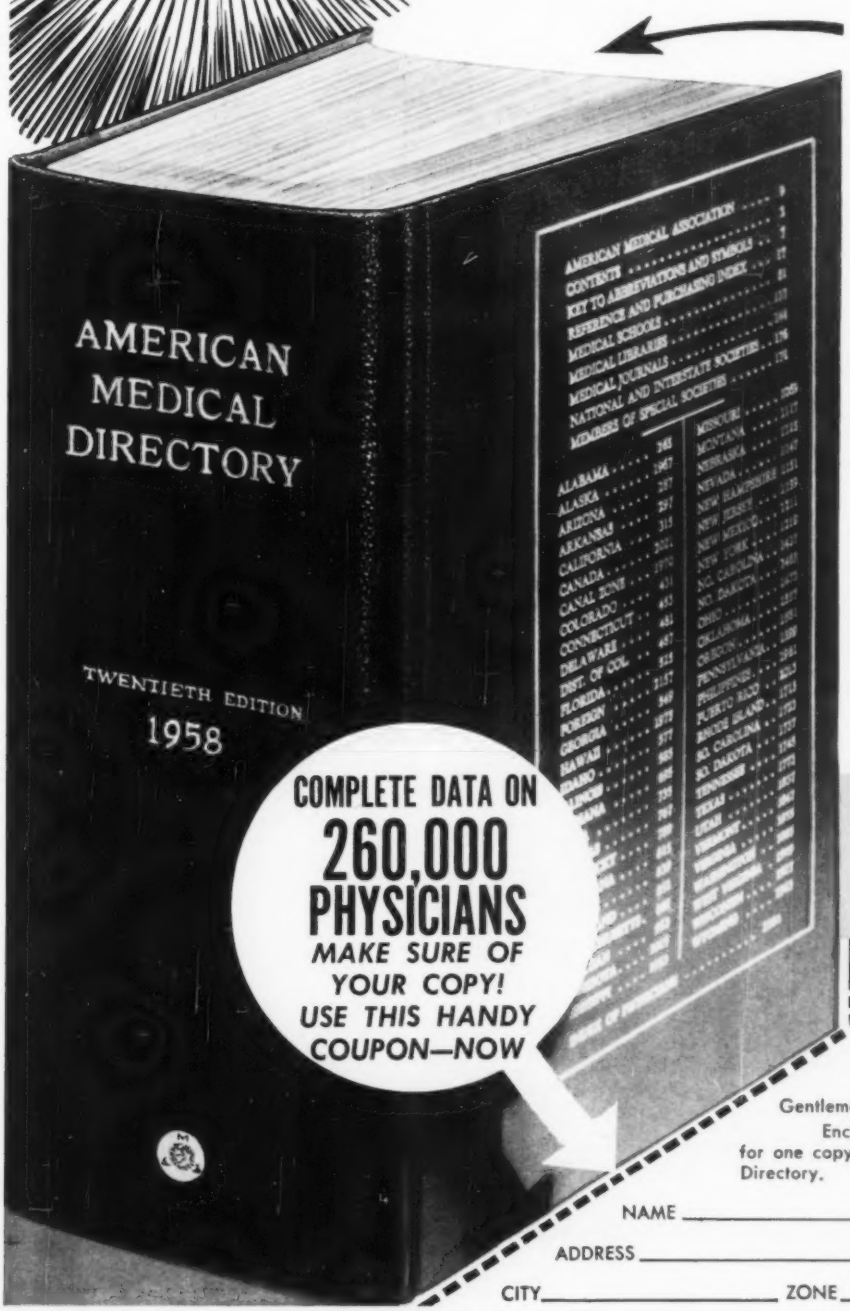

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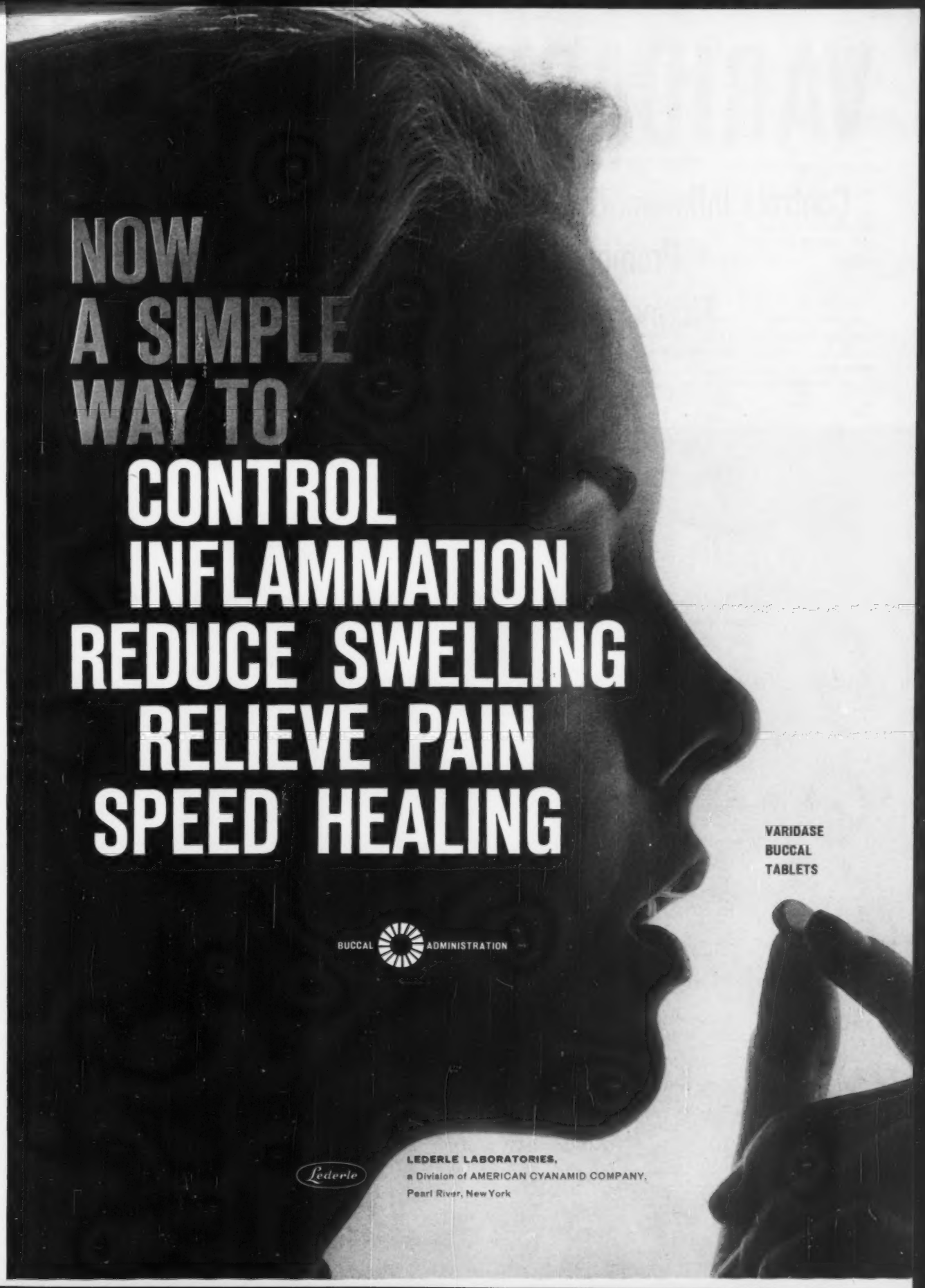
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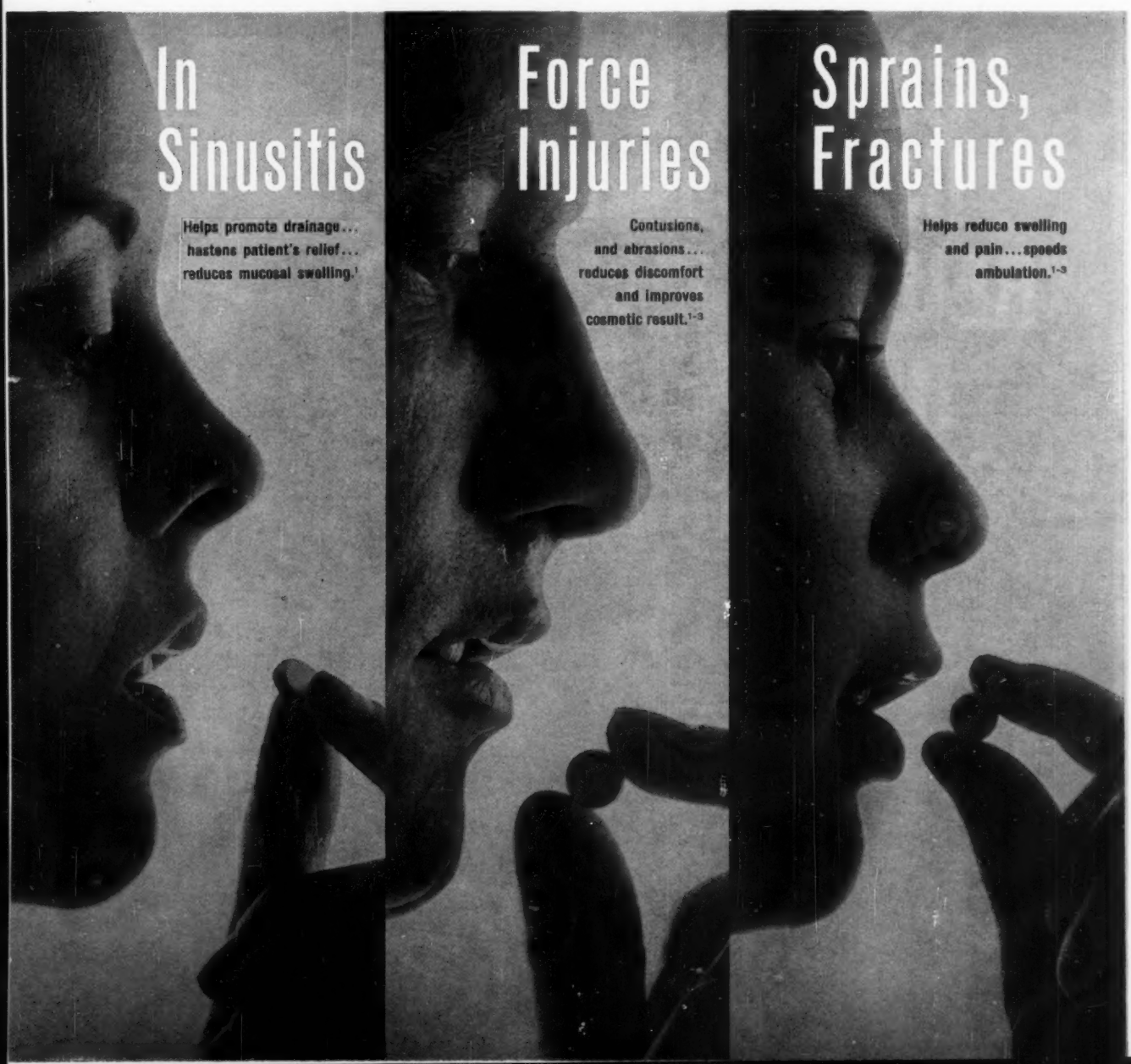
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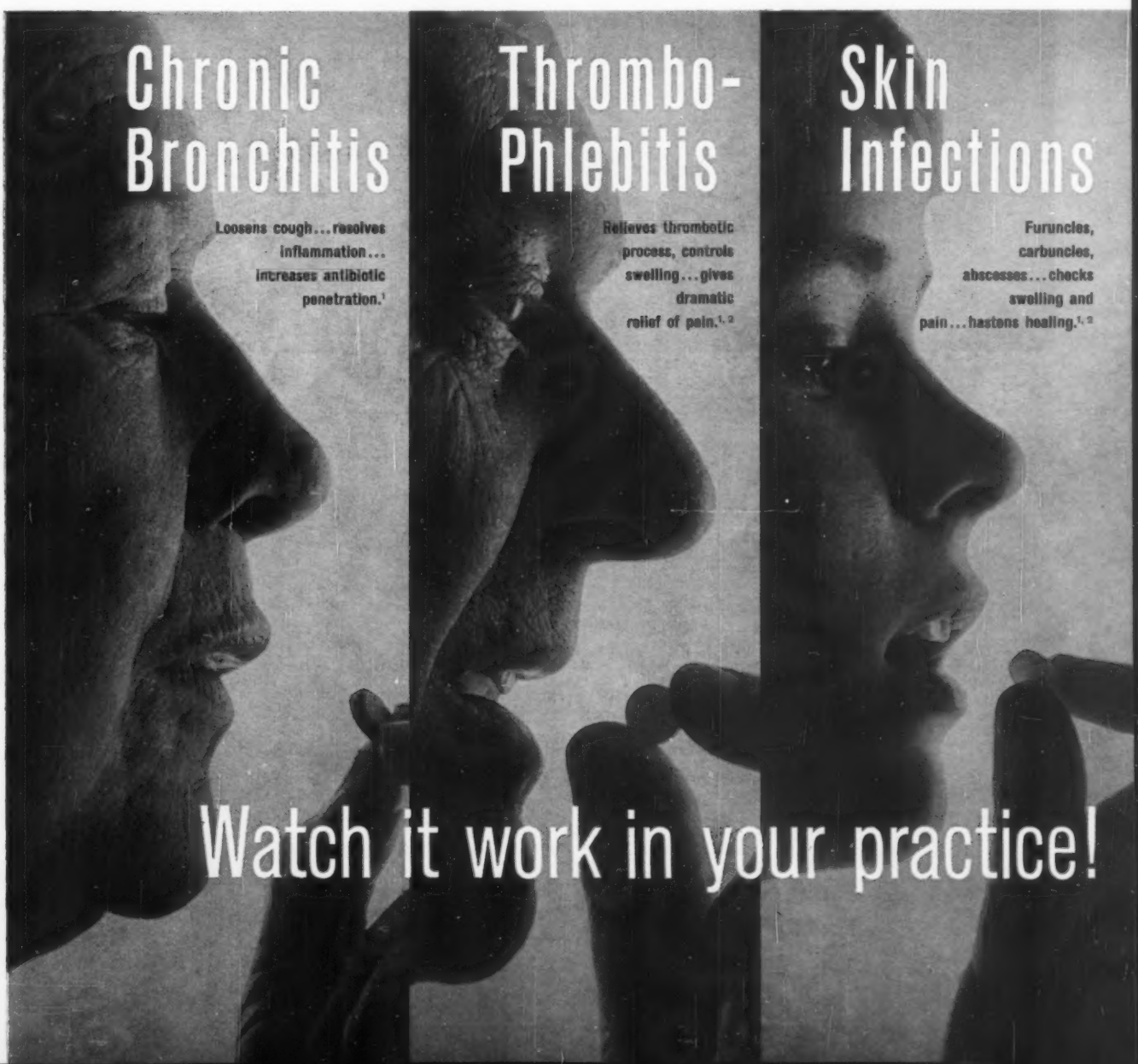
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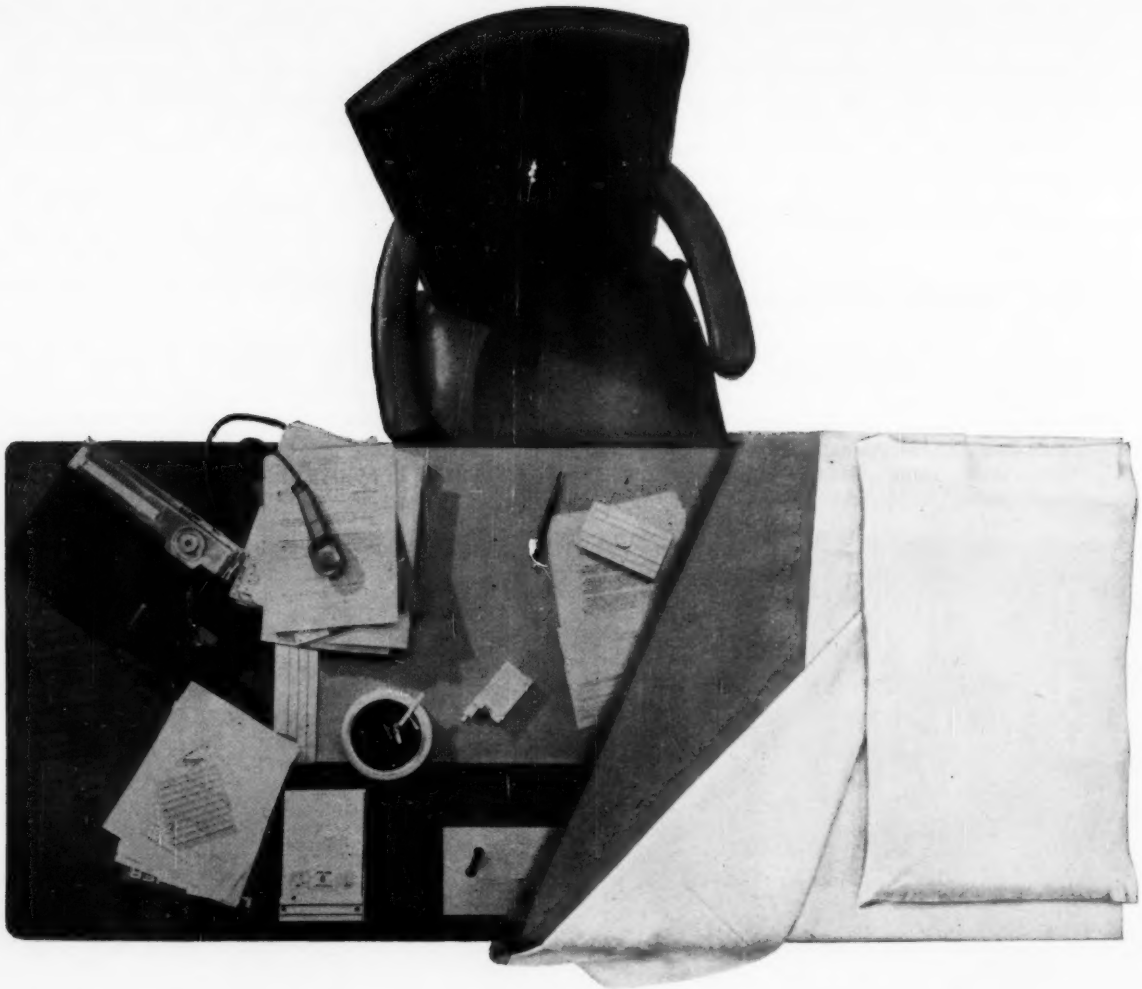

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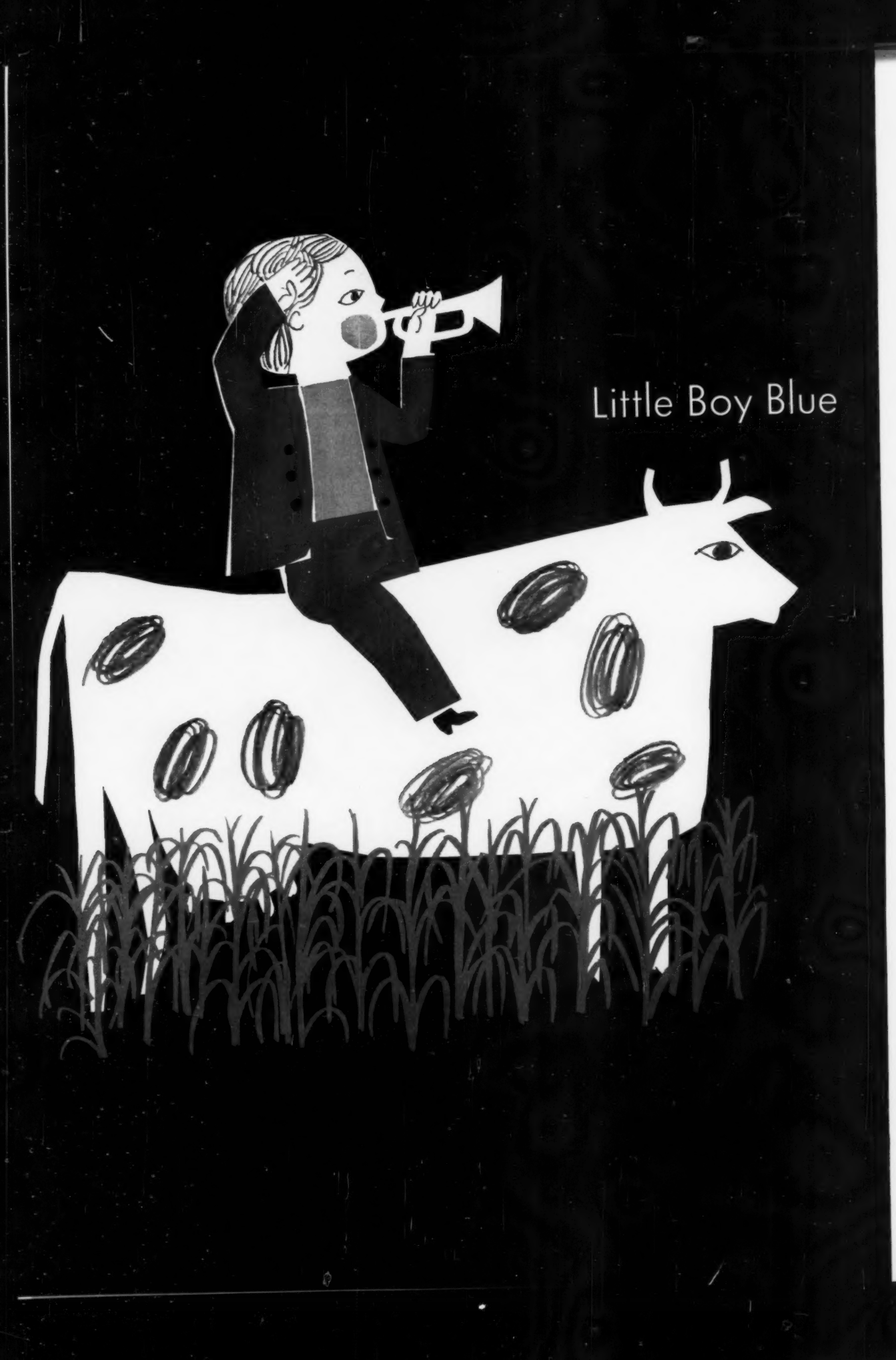
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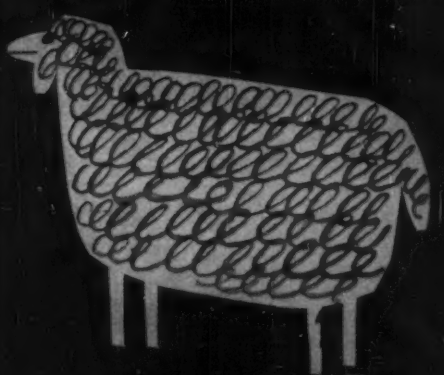

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EFFECTS OF CERTAIN ANTICOAGULANTS ON SERUM ENZYME ACTIVITY

Felix Wróblewski, M.D.
and
Carlos Manso, M.D., New York

When serum enzymes are employed as indexes of cardiac tissue necrosis, cognizance must be taken of the effect of certain anticoagulants and other drugs on the serum transaminase activity. The administration of bishydroxycoumarin in doses employed clinically to an individual without liver disease usually results in little or no change in serum transaminase activity. In an individual with liver disease, bishydroxycoumarin administration may be accompanied by increases in serum transaminase activity. A patient having incurred a myocardial infarction will be expected to show an increase in SGO-T activity, less or no increase in SGP-T activity, and increased SLD activity. The administration of bishydroxycoumarin and ethyl biscoumacetate to a patient with acute myocardial infarction may result in serum enzyme activity elevations independent of the changes resulting from myocardial necrosis.

THE measurement of serum enzyme activities has been increasingly employed as an adjunct for the confirmation of transmural myocardial and subendocardial infarction.[1] Of these serum enzymes, glutamic oxalacetic transaminase has been used most widely. In addition to myocardial infarction, diseases of the liver, skeletal muscle, and biliary tract are known to cause increased serum glutamic-oxalacetic transaminase (SGO-T) activity.[2] The influence of drugs, including 0-diazoacetyl-L-serine (Azaserine),[2] aspirin,[3] chlorpromazine hydrochloride,[2] codeine,[4] iproniazid (Marsilid),[5] pyrazinamide[2] (fig. 1), and sulfamethoxypridazine,[6] on SGO-T activity has been noted, and attention has been drawn to possible misinterpretations resulting from drug-induced SGO-T alterations, especially in patients suspected of having incurred myocardial infarction.[2]

Recent observations have suggested that the administration of certain anticoagulants, including bishydroxycoumarin (Dicumarol) and ethyl biscoumacetate (Tromexan) may be associated with increased SGO-T and serum glutamic pyruvic transaminase (SGP-T) activity. These drug-induced

From the Department of Medicine, Memorial Center for Cancer and Allied Diseases, and the Division of Enzyme and Metabolic Studies, Sloan-Kettering Institute.

serum enzyme changes may lend themselves to erroneous interpretations by suggesting that an episode of coronary insufficiency has been accompanied by myocardial necrosis or that chest pain occurring several days after acute transmural infarction may represent extension of the infarct and/or a second superimposed myocardial infarction. It is the purpose of this report to draw attention to the observations which suggest that the administration of certain anticoagulant drugs other than heparin may result in significant serum enzyme changes and that, unless this phenomenon along with similar effects from other drugs is appreciated, erroneous conclusions may be derived from alterations in activity of SGO-T and other serum enzymes.

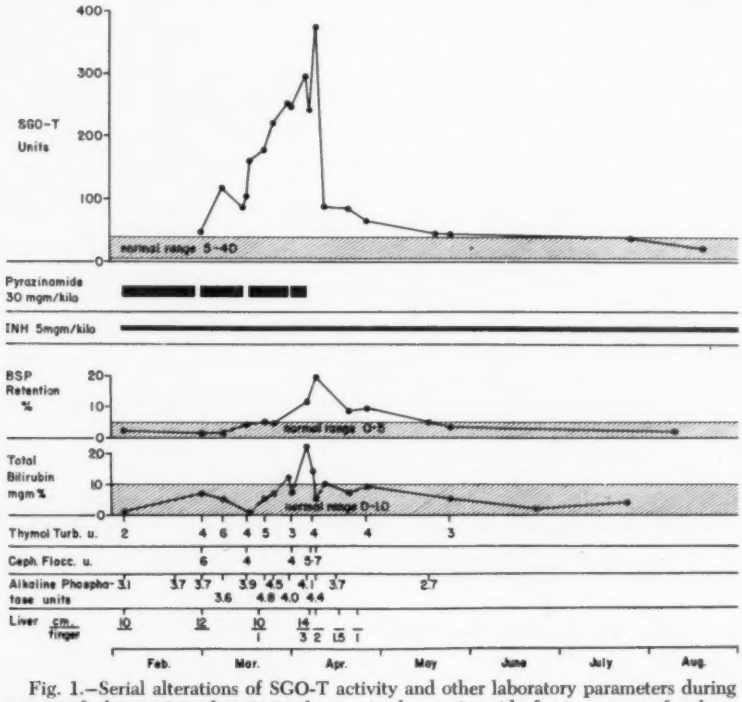

Fig. 1.—Serial alterations of SGO-T activity and other laboratory parameters during course of observation of patient who received pyrazinamide for treatment of pulmonary tuberculosis.

Clinical Observations

A rise in SGO-T activity to abnormal levels is observed for several days after myocardial infarction. Concomitantly, SGP-T activity remains within the normal range of 5 to 35 units per milliliter unless the area of infarction is large, in which instances there may be elevations of SGP-T to abnormal values. Figure 2 depicts the serial alterations of SGO-T and SGP-T activity observed in a patient who incurred a posterior myocardial infarct and who was not treated with anticoagulants. In instances of myocardial infarction in which the peak rise of SGO-T is more than 150 units, a rise in SGP-T activity usually results but is considerably less than the SGO-T activity. Contrariwise, the administration of drugs which are potentially hepatotoxic may be accompanied by increased serum transaminase activity if and when toxic hepatitis occurs; in these instances the increased SGP-T activity is greater than the simultaneously observed SGO-T activity. Figure 3 depicts the serial serum transaminase alterations in a patient who received large doses of aspirin; serum transaminase activity rose above the normal range, with SGP-T reaching a greater activity than the SGO-T.

The administration of bishydroxycoumarin in doses employed clinically to an individual without liver disease usually results in little or no change in serum transaminase activity (see the table, case 1). When congestive hepatomegaly is present, bishydroxycoumarin may increase serum transaminase activity at the same time that an effect on prothrombin time is observed. In the table (case 2) the serial alterations of prothrombin time and SGO-T and SGP-T levels are listed for a patient with congestive hepatomegaly who received a single 200-mg. dose of bishydroxycoumarin. The SGP-T and SGO-T activities rose to peak values of 60 units and 52 units, respectively, and then returned to the normal range within several days.

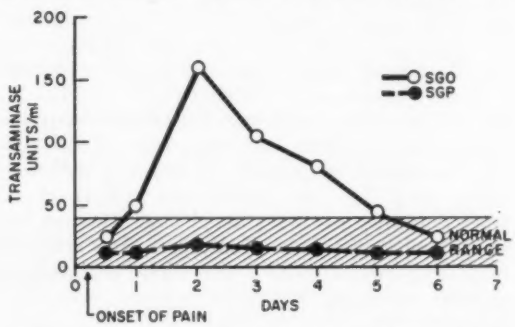

Fig. 2.—Serial alterations of SGO-T and SGP-T activity during course of observation of patient who incurred acute posterior myocardial infarction. No anticoagulants were administered.

In an individual with liver disease, bishydroxycoumarin administration may be accompanied by increases in serum transaminase activity. The table (case 3) also depicts the serial alterations of prothrombin time and SGO-T, SGP-T, and serum lactic dehydrogenase (SLD) levels observed in a patient with Laennec's cirrhosis after the administration of a single dose of 200 mg. of bishydroxycoumarin. Prior to the administration of the anticoagulant, both serum transaminase activities were above the normal range, with SGO-T increased to levels greater than SGP-T; this relationship of the two serum transaminase activities is usually seen in uncomplicated active cirrhosis. With the administration of bishydroxycoumarin, both SGO-T and SGP-T activities rose, the latter to greater activity than the former, suggesting that the drug effect on the serum enzymes was superimposed on the serum enzyme increments associated with cirrhosis. With dissipation of the drug effect, the serum transaminase levels returned to the range and ratio which existed prior to the administration of the anticoagulant.

Figure 4 depicts the serial alteration of serum transaminase activities, SLD level, and prothrombin time observed in a patient who received bishydroxycoumarin for the treatment of recurrent thrombophlebitis during the incubation period of homologous serum hepatitis. From the 13th to the 17th day, bishydroxycoumarin was administered along with aspirin on the 15th to the 18th day. Both drugs were withdrawn when it was noted that the prothrombin time rose beyond therapeutic range. Concomitantly, SGO-T and SGP-T activity increased. With discontinuance of therapy with the drugs, the prothrombin time and serum transaminase activity fell but did not return to normal values. Because the thrombophlebitis recurred, anticoagulants were readministered on the 28th day. Concomitant with the prothrombin time increase, serum transaminase activities rose, with that of SGP-T greater than that of SGO-T. The sizable increase in prothrombin time necessitated the administration of 50 mg. of vitamin K intravenously. Figure 4 depicts the fact that the prothrombin time after vitamin K administration returned to normal at a time when the serum enzyme levels remained elevated. Subsequently, it was recognized that the patient was developing homologous serum hepatitis, as reflected in clinical and laboratory findings; the untoward responses to anticoagulants were related to the lowered threshold of the liver functions, during the hepatitis incubation period, to the drugs administered. It is pertinent that with the elevations in serum transaminase levels there were concomitant elevations in SLD activity.

A patient having incurred a myocardial infarction will be expected to show elevation of SGO-T and lesser or no increase in SGP-T activity along with increased SLD activity. The administration of bishydroxycoumarin and ethyl biscoumacetate to a patient with acute myocardial infarction may result in serum enzyme activity elevations independent of the changes resulting from myocardial necrosis. Presumably, the serum enzyme activity changes ascribed to the anticoagulants are a reflection of their hepatic effect. When the two pathophysiological mechanisms coexist, causing elevation of serum transaminase activity due to myocardial infarction and due to toxic hepatitis from anticoag-

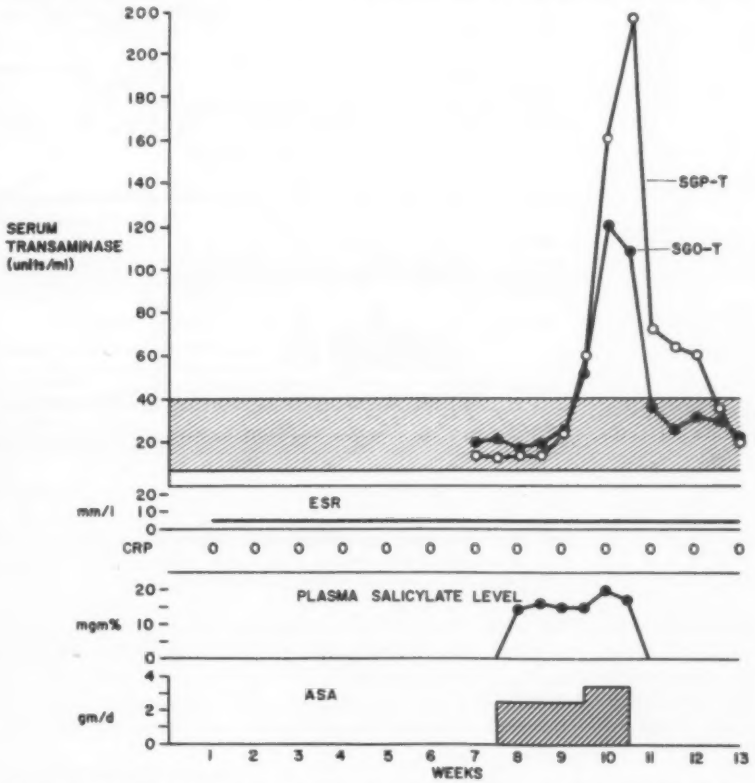

Fig. 3.—Serial alterations of SGO-T and SGP-T activity and other parameters in patient who received aspirin.

ulants, the serum enzyme changes observed will reflect the summation of the two effects.

Figure 5 depicts the serial alteration of prothrombin time and SGO-T, SGP-T, and SLD activities observed in a patient who incurred an anteroseptal myocardial infarction and was treated with bishydroxycoumarin and ethyl biscoumacetate. The initial rise in SGO-T and SGP-T activity primarily reflects myocardial necrosis, whereas the secondary rise in these levels occurred at a time when the clinical facts did not suggest extension of the infarction. The secondary rise of SGO-T activity on the fifth day was accompanied by an even greater increment in SGP-T activity. Since greater SGP-T than SGO-T activity could not be ascribed to further myocardial necrosis, it appeared that the serum transaminase changes reflected the effect in the liver due to bishydroxycoumarin and/or ethyl biscoumacetate. This supposition of effects is supported by the observation that the SGP-T activity returned to the normal range only after the discontinuance of bishydroxycoumarin therapy. The delay between the day of administration of anticoagulants and the serum transaminase effect is presumed to be analogous to the latent effect of the anticoagulants on the prothrombin time.

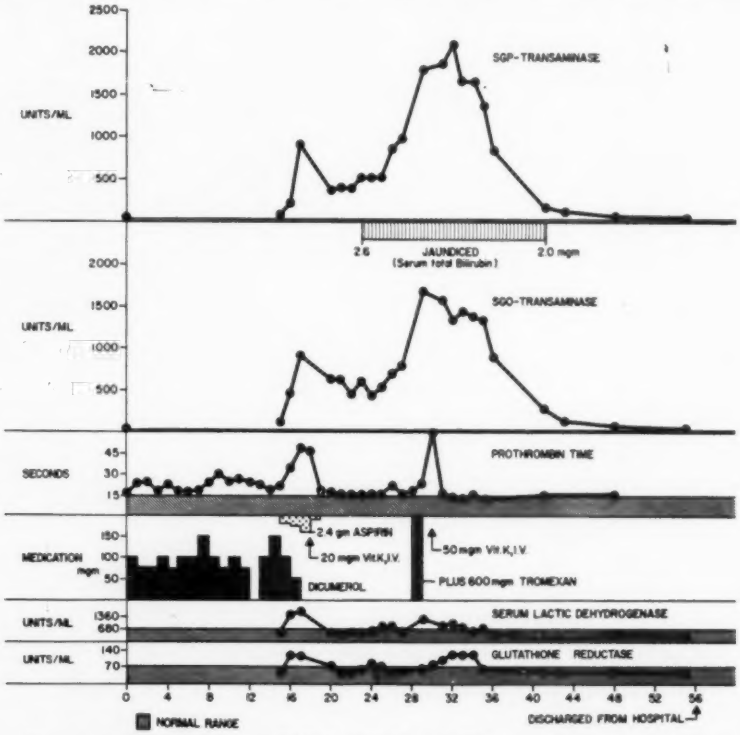

Fig. 4.—Serial alterations of SGO-T, SGP-T, and SLD activity, prothrombin time, and other laboratory parameters observed during anticoagulant therapy in patient with thrombophlebitis. During period of administration of anticoagulants incubation of homologous serum hepatitis was also occurring.

Serum Enzyme Activity and Laboratory Findings in Three Patients

	Case 1,* Age, 83 Yr., M (Arteriosclerotic Heart Disease, No Liver Disease)					
Date	12/19/57	12/20/57§	12/21/57	12/22/57	12/23/57	12/24/57
Prothrombin time, sec. (normal, 15-17 sec.)	12.3	14.0	16.1	15.6	15.6	14.0
SGO-T, units/ml. (normal, 8-40 units/ml.)	30	30	34	30	24	20
SGP-T, units/ml. (normal, 5-35 units/ml.)	18	10	24	16	16	18
SLD, units/ml. (normal, 150-500)	...	...	...	...	...	...

*Serum total bilirubin level, 0.94 mg. % (direct, 0.54 mg. %); cephalin flocculation, negative; serum total cholesterol level, 221 mg. %; serum total protein level, 7.8 Gm. % (albumin, 5.0 Gm. %); serum alkaline phosphatase level, 3.0 units/100 ml.
§ Date of bishydroxycoumarin administration.

Figure 6 depicts serial alterations of several laboratory parameters observed in another patient who

experienced an anteroseptal infarction and was treated with ethyl biscoumacetate and bishydroxycoumarin. The clinical facts indicated that the persistence of SGO-T activity above the normal range from the 5th to 10th day was due to the effect of the anticoagulants on the liver. Substantiation of this hypothesis was provided by the fact that a second ary and greater rise in SGP-T than in SGO-T activity occurred during the same period and by the observation that the SGP-T activity returned to the normal range at about the time bishydroxycoumarin administration was reduced to small dosage and/or discontinued. In both patients discussed above, the serum transaminase changes described could not be ascribed to shock and/or other causes for hepatic necrosis. In instances in which hepatic necrosis has been observed in association with or in the absence of myocardial infarction, SGO-T activity has been found to be increased to levels greater than that of SGP-T.

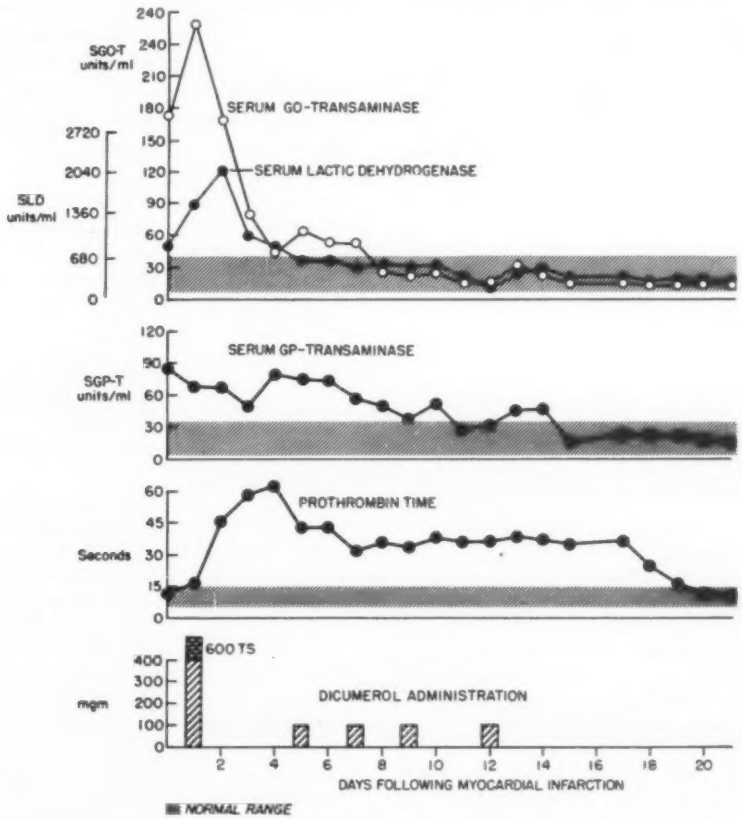

Fig. 5.—Serial alterations of SGO-T, SGP-T, and SLD activities and prothrombin time observed during course of observation of patient with anteroseptal myocardial infarction.

Before and After Administration of 200 Mg. of Bishydroxycoumarin

Case 2,† Age, 64 Yr., F (Arteriosclerotic and Hypertensive Heart Disease, Congestive Hepatomegaly)								Case 3,‡ Age, 60 Yr., F (Laennec's Cirrhosis)						
12/6/57	12/10/57	12/11/57§	12/12/57	12/13/57	12/14/57	12/16/57	12/18/57	4/7/57	4/10/57§	4/11/57	4/12/57	4/13/57	4/14/57	4/15/57
14.0	14.2	15.0	15.4	17.8	18.0	14.7	14.0	16.4	16.0	19.8	18.1	17.7	17.6	16.8
32	30	38	...	50	52	35	30	48	50	53	56	56	56	56
30	24	30	...	60	60	40	30	40	48	51	60	56	40	46
...	...	...	...	...	...	...	...	380	290	600	480	340	320	300

† Liver enlarged to 15 cm. below costal margin; daily additional therapy with digitoxin, 0.1 mg., and chlormerodin (Neohydrin), 3 tablets. Serum total bilirubin level, 0.68 mg. %, cephalin flocculation, negative; thymol turbidity, 0.38 units; serum total cholesterol level, 205 mg. % (free cholesterol, 60 mg. %); serum total protein level, 7.6 Gm. % (albumin, 4.8 Gm. %); serum alkaline phosphatase level, 4.4 units/100 ml. (normal, 1.5-4.0).
‡ Serum total bilirubin level, 0.66 mg. %; thymol turbidity, 2.3 units; serum total cholesterol level, 189 mg. %; serum total protein level, 9.3 Gm. % (albumin, 5.8 Gm. %); BSP retention (45 min.), 13%.

Comment

It appears that the administration of such anticoagulants as ethyl biscoumacetate and bishydroxycoumarin may be accompanied by SGO-T as well as SGP-T alteration. When these drugs are employed in the clinical setting in which subendocardial infarction, transmural myocardial infarction, or extension of an infarct are suspected, cognizance must be taken of the potential hepatic effect of the anticoagulants and the reflection of this phenomenon in the alteration of serum transaminase and lactic dehydrogenase activity if the serum enzymes are being used as a parameter of cardiac tissue necrosis. The effect of the anticoagulants on serum enzyme levels is not necessarily related to the effect of the drugs on the prothrombin time. With the concomitant administration of bishydroxycoumarin and vitamin K, serum transaminase alterations have been observed in the absence of any change in the prothrombin time, suggesting that the prothrombin time and serum enzyme changes are independent reflections of the hepatic effects of anticoagulants.

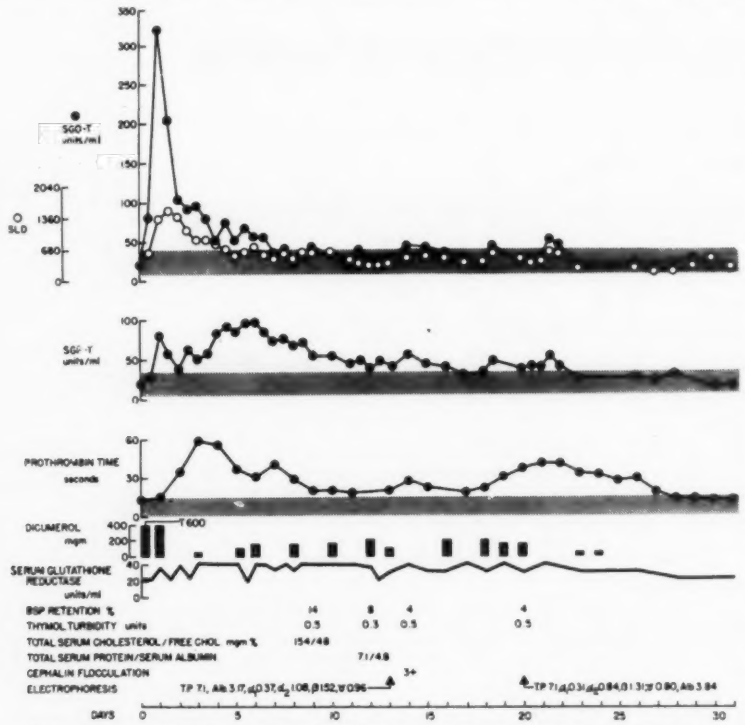

Fig. 6.—Serial alterations of SGO-T, SGP-T, and SLD activities and other laboratory parameters observed during course of observation of patient with anteroseptal myocardial infarction.

Summary

The administration of ethyl biscoumacetate and bishydroxycoumarin may at times be accompanied by significant alterations in serum transaminase and lactic dehydrogenase activity. The serum enzyme alterations may occur independently of and quantitatively unrelated to the effect of the drugs on the prothrombin time.

When serum enzymes are employed as indexes of cardiac tissue necrosis, cognizance must be taken of the effect of certain anticoagulants and other drugs on the serum transaminase activity. Drug-induced serum transaminase alterations are usually characterized by greater increase in SGP-T than SGO-T activity, whereas in myocardial infarction the predominant increase is in SGO-T activity. Simultaneous determination of SGO-T and SGP-T activity may at times permit the differentiation of drug-induced serum transaminase effects from those accompanying myocardial necrosis.

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ENCEPHALOTRIGEMINAL ANGIOMATOSIS (STURGE-WEBER DISEASE)

CLINICAL STUDY OF THIRTY-FIVE CASES

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The characteristic feature of encephalotrigeminal angiomatosis is the combination of venous angioma of the leptomeninges over the cerebral cortex with ipsilateral angiomatous lesions on the face. This is a study of 35 cases in which data were sufficient to establish the diagnosis. The most common clinical feature was a convulsive disorder, present in 31 (89%) of the patients. Dermal venous angiomas were present in 30, abnormal roentgenographic findings in 22, mental retardation in 19, ocular involvement in 13, and hemiplegia in 11. Four cases are described in detail to illustrate the symptoms and usual course of the disease. The findings are extremely variable. In some patients anticonvulsant therapy was effective. In others the neurological complications progressed unless halted by surgery. Craniotomy with surgical ablation of the affected parts of the cerebrum controlled the seizures and behavior problems of some patients, but in one of the cases described the lesion could not be extirpated because the huge angioma covered the entire left cerebrum and the cystic subarachnoid space contained aberrant vessels. Early diagnosis is important in any case because neurosurgical techniques have evolved to the point where cortical excision and hemispherectomy are feasible when called for.

Encephalotrigeminal angiomatosis (Sturge-Weber disease) is an uncommon congenital disorder caused by faulty development of certain mesodermal and ectodermal elements closely approximated in the brain and meninges during early fetal stages. The *sine qua non* of the disease is a venous angioma of the leptomeninges over the cerebral cortex (most often the posterior parietal and occipital lobes) which is usually, but not invariably, associated with a similar vascular lesion of the face (port-wine nevus), often in the area of skin supplied by the trigeminal nerve, on the same side as the meningeal angioma. Frequent associated clinical findings are focal or generalized convulsions, contralateral hemiplegia, and mental retardation—all owing to degeneration resulting from circulatory changes in the cerebral cortex underlying the meningeal angioma. Angioma of the choroid and ipsilateral buphthalmos or glaucoma are often found in patients with this disorder. Characteristic and common roentgenographic findings are due to intracerebral calcific or ferruginous deposits.

Review of Published Material

Excellent reviews [1] of the clinical manifestations and the pathogenesis of this disorder are available. In 1860 Schirmer [2] described a patient with a port-wine facial nevus associated with homolateral glaucoma. W. Allen Sturge [3] in 1879 described a case of epilepsy in a young girl who exhibited an extensive "port-wine mark" over the right side of the head and enlargement of the right eye with vascular changes in the choroid. He speculated that the patient's convulsions, which were preceded by focal seizures on the left side, were caused by a similar vascular lesion on the surface of the right side of the brain. Kalischer [4] in 1897 first reported the results of an autopsy in such a case and described an extensive angioma involving the skin, skull, and meninges on the same side as the facial lesion. Apparently unaware of Sturge's report, Cushing [5] in 1906 described three such cases in which he had performed craniotomy and called attention to the fact that the cutaneous nevus as well as the meningeal angioma was found within the region of distribution of the trigeminal nerve. Dimitri [6] in 1923 and Weber [7] in 1922 and 1929 described the characteristic roentgenographic finding of opaque double-contoured sinusoidal lines following the convolutions of the brain in the occipital and parietal regions. Krabbe [8] in 1934 demonstrated that the roentgenographic shadows represented calcium deposits in the outer layers of the cerebral cortex rather than in the walls of blood vessels as had been thought by previous writers.

Yakovlev and co-workers [9] have included encephalotrigeminal angiomatosis with Von Recklinghausen's neurofibromatosis, tuberous sclerosis, and Lindau-Von Hippel disease as manifestations of congenital ectodermoses (neurocutaneous syn-

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dromes). They considered a congenital defect of vasomotor innervation of the malformed blood vessels to be an important factor in the hyperplasia and dilatation of those vessels in the affected regions. In the vessels they found changes—due presumably to abnormality of circulation—which consisted of fibrosis, hyaline degeneration, dilatation, and calcification. Loss of brain cells, gliosis, and deposition of calcium in the parenchyma of the cortex underlying the vascular malformation were additional features of note. Kirby [10] discussed the ocular manifestations of encephalotrigeminal angiomatosis, primarily glaucoma and angioma of the choroid, and pointed out that this disorder as well as the other neurocutaneous syndromes could be classified as "phakomatoses" (etymologically, mother spots) as suggested by Van der Hoeve.

Materials and Methods

In an effort to obtain more information about the clinical manifestations and course of this entity we reviewed the records of all cases of encephalotrigeminal angiomatosis seen at the Mayo Clinic from

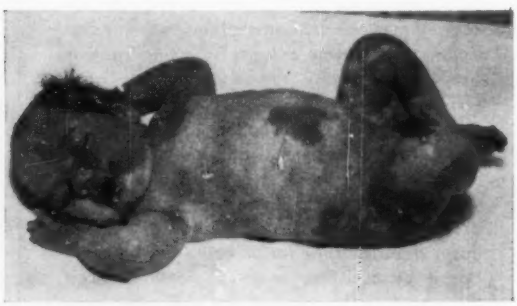

Fig. 1.—Scattered dermal nevi associated with generalized seizures in girl 2½ months old.

1935 through 1956. The diagnosis had been recorded 40 times, but five cases were excluded from our study because the clinical data were inadequate. A number of patients have been reexamined some years after the diagnosis was made, and follow-up information was received from patients, physicians, and institutions for 31 of the 35 cases in this report. We believe the data available are sufficient for indicating the course, in most instances, and the general prognosis in this disease. In four cases craniotomy was performed here in an effort to control the severe convulsive disorders, and these cases are reported in detail below. Three patients underwent craniotomy elsewhere.

Clinical and Laboratory Findings

Of the 35 patients 20 were males and 15 females. A differential sex ratio has not been reported as a feature of this syndrome, although males outnumbered females in the series of Greenwald and Koota.[1c] Thirty-three patients of our series were Caucasians and two were Negroes, but the proportion of Negroes registered at the Mayo Clinic is very low. The ages of the patients when first seen varied from 4 months to 35 years, 27 patients being less than 15 years old then. The clinical manifestations of encephalotrigeminal angiomatosis in the 35 patients were convulsive disorder in 31 (89%), dermal venous angioma in 30 (86%), abnormal roentgenographic findings in 22 (63%), mental retardation in 19 (54%), ocular involvement in 13 (37%), and hemiplegia in 11 (31%).

It can be seen that the most common clinical feature was the history of the convulsive disorder, present in 31 (89%) of the patients. In 19 cases the onset of convulsions preceded the patient's first birthday, and in only 4 was the onset recognized after the age of 5 years, the latest being at age 15. Generalized motor seizures were suffered by 24 patients, but in 6 of these the convulsions had had their beginning as focal seizures affecting the side of the body opposite the cerebral lesion. Seven had focal seizures only. Electroencephalograms were obtained in 26 cases and were normal in only one. The abnormalities ranged from arrhythmias through focal and generalized delta waves and were not specific except that the region of the electrical disturbances generally coincided with that region of the brain where involvement would be suspected from clinical findings.

Dermal capillary-venous angiomas (port-wine nevi) were found in 30 (86%) of our cases, 13 being on the right side, 10 on the left, and seven bilateral. It is of interest that although most of the nevi were limited to the general area of skin supplied by the trigeminal nerve, seven patients exhibited such nevi involving the trunk and extremities. In two of these patients the nevi were confined to the same side of the body as the brain lesion, whereas in the other five the lesions were scattered, involving various parts of the trunk and limbs on both sides of the body. The color of these nevi ranged from pink to deep purple, and they varied in size from 3 or 4 cm. in diameter to massive involvements of most of the trunk or limbs (fig. 1). All the nevi had been present at birth and did not enlarge except in one patient who required repeated surgical excision of angiomatous tissue on the buccal aspect of the cheek. The five patients without cutaneous nevi had characteristic roentgenographic findings of encephalotrigeminal angiomatosis.

Typical intracranial convolutional calcification was present in 22 (63%) of our patients, the youngest patient exhibiting the abnormality being 4 months of age and severely retarded in mental development. In three cases, all of which included bilateral cutaneous nevi, bilateral calcifications were discernible in cranial roentgenograms (fig. 2). In two patients roentgenographic abnormalities were not present on the first examination, which

was made during infancy, but were present on reexamination several years later. The calcium deposits invariably were located in the parietal or occipital regions. One woman 35 years of age with typical features of encephalotrigeminal angiomatosis, including a long-standing convulsive disorder, a facial nevus, and dilatation of blood vessels in the ipsilateral retina, gave no evidence of abnormality on a cranial roentgenogram; likewise, that of a man 34 years of age with a typical facial nevus and contralateral focal seizures was noncontributory. The latter patient had undergone craniotomy some years prior to our examination and had been told that a "venous angioma" on his brain was cauterized. Of the other 11 patients whose cranial roentgenograms showed nothing unusual, 6 were less than one year old.

Ocular involvement was noted in 13 (37%) of our patients, with some exhibiting more than one form of change. Glaucoma occurred in 10 instances, angioma of the choroid was visible in 2, and dilatation of the vessels of the iris in one. The glaucoma was bilateral in two patients, with bilateral facial nevi and bilateral cortical calcification in one and bilateral nevi in the other; a noncontributory cranial roentgenogram was made in the second case. There were two patients with homonymous visual field defect and two with "cortical blindness," all four having normal optic fundi.

Some degree of mental impairment was revealed on initial examination in 12 patients (34%) of this series. Though not all of the 12 were subjected to psychometric testing, it was the consensus of the several physicians who examined them that there was mental dulness in each instance. The lowest intelligence quotient was 10. Follow-up data revealed 7 more patients in whom mental retardation developed or became apparent at a later date, making a total of 19 patients (54%) with intellectual impairment.

Hemiplegia or hemiparesis was seen in nine (26%) of these patients, always on the side opposite the facial nevus or roentgenologic signs. One patient with bilateral facial nevi was quadriplegic. In two patients there was hemihypertrophy of the face, and in one case hemihypertrophy of the tongue, all on the side of the nevus. There were five instances of hemiatrophy, two of which were associated with hemiplegia and all of which were found on the side opposite the brain lesion. Follow-up data revealed 2 more patients in whom hemiparesis developed, making a total of 11 (31%).

Follow-up Data

Follow-up information was obtained on 31 patients. Twenty-five were traced for more than 5 years, one of them for 18 years. Of the 31 patients, 17 were considered to be well. Two had never had a convulsion. Fifteen continued to have convulsions, but their episodes occurred infrequently while anticonvulsant medicaments were being taken. Three of these patients (cases 2, 3, and 4) had undergone craniotomy at this institution, and one patient underwent a cortical excision elsewhere when 8 years old. In the latter patient, as well as in 6 others of the 15, convulsions apparently disappeared. Only 3 of the 17 showed mental retardation; in 2 it was slight and did not seem to interfere with school work, and in one (case 2) intellectual function apparently improved with time. One patient had graduated from college, and several had married and were rearing families. The remainder of the 17 were attending public school.

Four patients had died, one after craniotomy at 14 years of age (case 1) and three after progressive deterioration at ages 9 months, 18 months, and 7½ years. Ten patients had done poorly; five of them living at home were reported to be in wretched health as the result of uncontrolled seizures, mental retardation, or progressive weakness, spasticity, movement disorders, or blindness. One of these had undergone craniotomy elsewhere,

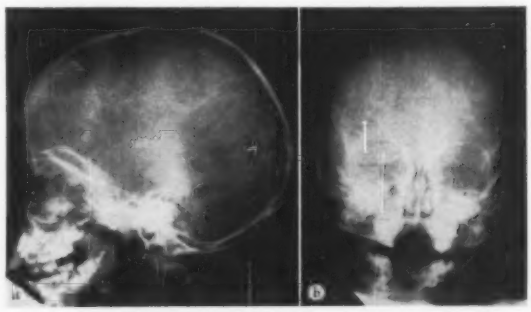

Fig. 2.—Cranial roentgenograms (*a*, lateral; *b*, posteroanterior) showing bilateral calcifications typical of encephalotrigeminal angiomatosis. This patient, a 4-year-old girl, had severe mental retardation, focal and generalized convulsions, bilateral glaucoma, and right hemiplegia. She died three years later, after progressive deterioration.

but the lesion had been considered too large for removal. The other five patients were confined to institutions, all being unable to care for themselves because of severe seizures or mental retardation. One such patient had been subjected to hemispherectomy elsewhere, after which the seizures had disappeared. In four cases follow-up information was not available.

Report of Cases

Case 1.—A 12-year-old boy was examined in June, 1949. At birth a port-wine nevus had been noted on the right side of the forehead. At 8 months of age the patient had begun to have generalized convulsions. At 7 years it had been noticed that he was dragging his left foot and having trouble controlling his left hand. At age 11 he had been in the fourth grade but had had to stop school because of poor grades. Also, mental retardation had become obvious and

the convulsions had been becoming more severe and more frequent. For six months prior to admission the child had talked very little and anticonvulsants had been completely ineffective in controlling his seizures.

Examination revealed the boy as deteriorated, noncommunicating, drooling saliva, and unable to carry out any but the simplest commands. His left arm and leg were spastic and weak. The port-wine nevus on the right side of the forehead was noted. The optic fundi were normal. Roentgenograms of the skull revealed calcification in the cortex of the right temporal, parietal, and occipital lobes, compatible with encephalotrigeminal angiomatosis. An electroencephalogram showed generalized delta waves, grade 3, maximal on the right, and generalized dysrhythmia, grade 2 (1 being mildest and 4 most severe).

On July 6 a right temporo-parieto-occipital craniotomy with complete resection of the occipital lobe and partial resection of the posterior parietal and posterior temporal lobes was performed by one of us (J. G. L.). There was very slight improvement after operation while the patient was still in the hospital. Roentgenograms showed residual calcium in the brain.

After the patient's return home it was reported that he was free of seizures and able to dress, feed, and bathe himself and that he was more alert, had no spasticity or weakness, and walked with no apparent difficulty. In September the seizures recurred, and there was slight regression in behavior and mentality.

In January, 1951, when he was 14 years of age, he was seen again because of further regression and severe generalized convulsions. He was then extremely deteriorated; he drooled, could walk alone but was unsteady on his feet, and never spoke. In February a right cerebral hemispherectomy was carried out by one of us (J. G. L.). Subsequently the boy improved slightly, but after several days his pulse rate dropped and the pressures of his cerebral spinal fluid became extremely high. Despite several lumbar punctures and ventricular taps, his course was progressively downhill with dilated, fixed pupils and cyanosis; the child died a few days postoperatively of what proved at autopsy to be pontine hemorrhages.

Pathological Aspects.—The mass of brain tissue removed from the right parieto-occipital region in the second operation measured 10 by 10 by 4.5 cm. and weighed 200 Gm. Marked injection of the pial vessels was apparent when the specimen was received in the laboratory. On sectioning, a zone immediately subjacent to the surface afforded a gritty sensation owing to its high content of calcium.

Microscopic sections showed extensive angiomatosis of the pial vessels. Abnormally numerous, the channels comprising the angioma appeared to be venous rather than arterial or capillary; and all were extensively engorged. These vessels did not seem to penetrate the underlying pia, which was thickened and intact except where certain feeder vessels pierced it to connect the angiomatous regions with the numerous capillaries in the subjacent cortex (fig. 3*a*).

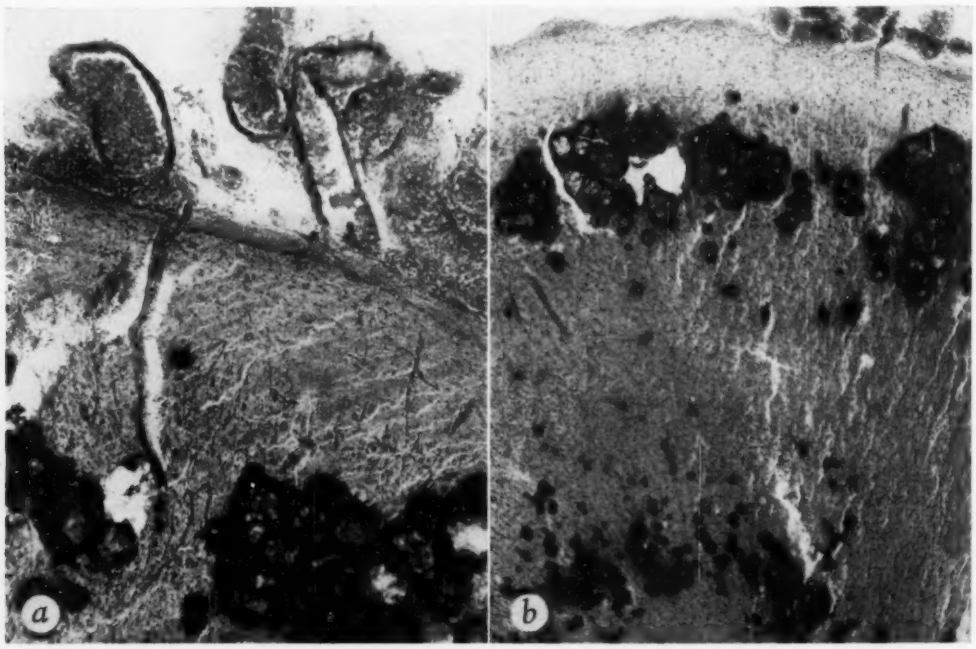

Fig. 3 (case 1).—*a*, pial angiomatosis with large engorged venous channels; one feeder vessel extending into underlying cortex toward zone of calcification (hematoxylin and eosin; magnification 60 ×). *b*, banding of calcific zones, intervening brain being unduly vascular and somewhat gliotic (hematoxylin and eosin, magnification 40 ×).

The underlying cortex was remarkable in that it exhibited several concentric zones of calcification involving both the gray and the white matter. The outermost zone contained the coarsest granules, and these were so closely packed as to obliterate the cerebral architecture in the area. The deeper zone of calcification was made up of finer deposits more loosely distributed, with islands of seminormal brain intervening (fig. 3*b*). Away from these major zones, calcific deposits occurred in scattered clumps of small dimensions. The finest deposits, scarcely discernible, always were situated close to the very numerous capillaries, which appeared to be just as fundamentally a part of the disease as the pial angiomatosis (fig. 4*a*). Proliferation of glial cells and destruction of ganglion cells appeared to be secondary

degenerative phenomena. The fact that this parenchymatous degeneration and gliosis was always most severe in the vicinity of the major bands of calcification correlated with the observed mental deterioration which accompanied progressive deposition of lime salts in the brain substance. No calcification of the pial vessels was observed and efforts failed to verify the ferruginous nature of part of the gritty cortical concretions, although such has been reported.[11]

Case 2.—Another boy has been examined recurrently at the Mayo Clinic since April, 1939, at which time he was one year old. A facial hemangioma on the right had been noted at birth; but development had appeared normal until two months prior to first admission, when convulsions had developed. These had been severe generalized seizures with an aura, tonic and clonic phases, and postictal drowsiness; as many as 12 had occurred in one day. After the initial seizure it had been noted that residual hemiparesis on the left persisted, and many of the seizures had begun on the left side. Examination revealed left-sided hemiparesis and a port-wine nevus on the right side of the forehead. Homonymous hemianopsia on the left was present, and there was a loss of conjugate deviation of the eyes on gaze to the left. Findings in the pupils and fundi were normal, and the cranial roentgenogram showed nothing unusual. A pneumoencephalogram was interpreted as "compatible with a vascular lesion in the right motor cortex." Phenobarbital was prescribed which controlled the seizures. It was the opinion of the examining physicians that the patient was suffering from extensive degeneration of the right cerebral hemisphere as a result of a vascular accident (thrombosis or fistula).

The second examination was made in April, 1945, the patient then being 7 years old. He had done well until two years earlier, when generalized seizures had developed again, and he had become hyperactive and difficult to manage, suffering enuresis, anorexia, and episodes of dysarthria. Examination revealed some difficulty with gait due to spasticity of the left leg. Ophthalmological examination revealed paresis of the right lateral rectus muscle and some nystagmus on right lateral gaze. The patient's intelligence quotient at that time was 38 (imbecile range).

The third examination was made in February, 1950, when the boy was 12 years of age. He was then in the second grade in public school. For the preceding five years he had had at least one generalized seizure every day. The frequency and severity of the convulsions had increased markedly in the three months prior to admission, and anticonvulsant medication was of no effect. Examination revealed left-sided spastic hemiparesis. A cranial roentgenogram now showed subcortical calcification in the right occipital region. Ophthalmological examination disclosed left homonymous hemianopsia with normal optic fundi. The intelligence quotient at that time was 49. An electroencephalogram revealed asymmetry, grade 3, with alpha depression on the right. In March right parieto-occipital craniotomy with resection of the right occipital lobe and a portion of the right parietal and temporal lobes was carried out by one of us (J. G. L.). At dismissal, the patient was taking phenobarbital and was free of seizures.

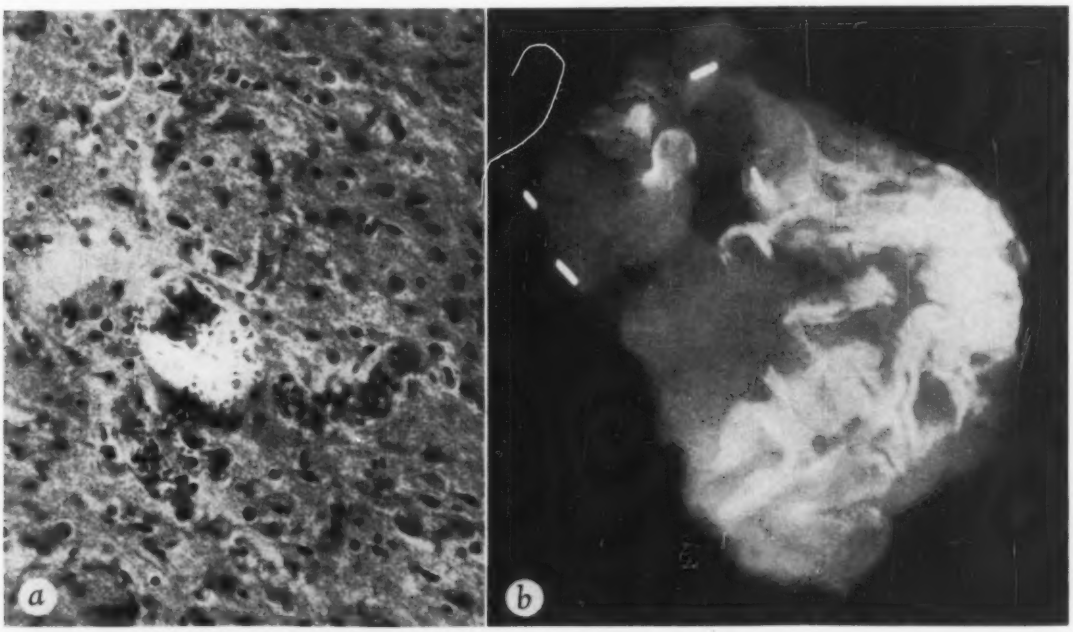

Fig. 4 (case 1).—*a*, fine guttulate masses of calcium in relation to capillary blood channels, with several ganglion cells in various stages of degeneration (hematoxylin and eosin; magnification 200 ×). *b* (case 2), roentgenographic view of specimen showing convolutional distribution of calcific deposits which often occurs in encephalotrigeminal angiomatosis.

He was seen again in April, 1955, at age 17. He had been taking no treatment and had had no convulsions. He was in the sixth grade in public school and was doing well, with normal behavior. There was mild residual left-sided hemiparesis.

He was last examined in October, 1957, at age 19. Mild left-sided hemiparesis was continuing, and also he complained of occasional numb feelings and twitches of the left hand. Anticonvulsant medication was prescribed.

Pathological Aspects.—Grossly the pathological specimen of brain measured 8 by 8 by 2 cm. and weighed 81 Gm. As in the preceding case, marked pial angiomatosis and convolutional calcification appeared in the underlying cortex. The latter is well illustrated by a roentgenogram made from the gross surgical specimen (fig. 4*b*).

Microscopic sections exhibited the features described in case 1, but in addition an unusual dense thickening and lamination of the pia were apparent. These features and the distention and congestion of the overlying venous spaces are shown in figure 5*a*. Calcification in the form of pericapillary beading was visible even more clearly than in the preceding

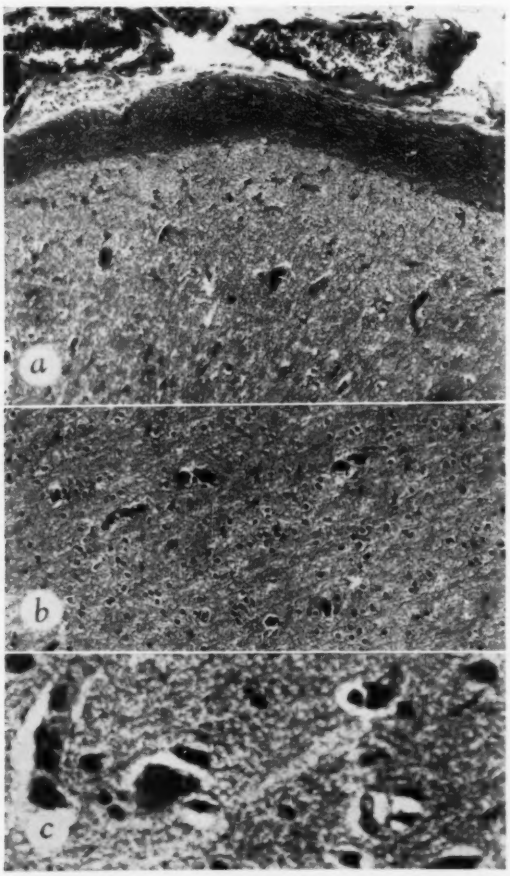

Fig. 5 (case 2).—*a*, in addition to pial angiomatosis, remarkable fibrous thickening of pia (hematoxylin and eosin; magnification 100 ×). *b*, focal pericapillary calcification in form of dark beads (hematoxylin and eosin; magnification 125 ×). *c*, many ganglion cells in various stages of degeneration (hematoxylin and eosin; magnification 400 ×).

case (fig. 5*b*), and its part in producing swelling and degeneration of ganglion cells was evident in many of the sections (fig. 5*c*).

Case 3.—A 9-month-old boy was seen in January, 1951. A port-wine nevus on the left side of the forehead and scalp had been noted at birth. At age 7 weeks, seizures had begun, with twitching of the right eye and corner of the mouth, and then progressed to the right arm and leg. Incoordination of the right arm had been noted. For a month prior to admission tonic and clonic movements had been noted which at times involved only the right side of the body and face and at other times were generalized.

Examination revealed that the right extremities moved less well than the left, though there was no significant difference in the reflexes nor any other localizing sign. An electroencephalogram revealed asymmetry, grade 2, with alpha depression on the left. A cranial roentgenogram showed no abnormality. A pneumoencephalogram demonstrated diffuse dilatation of the ventricular system, with a multiloculated collection of air over the atrophic left hemisphere (fig. 6). Findings from a left carotid angiogram were negative, as were those from ophthalmological examination.

Left fronto-temporo-parietal craniotomy was carried out (by Dr. Alfred Uihlein), disclosing a huge hemangioma overlying the entire left cerebrum. The cystic subarachnoid space contained aberrant blood vessels. Accordingly, no definitive procedure was attempted. A letter received in August, 1957, stated that the boy was feeling well, though he was still having occasional seizures despite anticonvulsant therapy.

Pathological Aspects.—The pathological specimen consisted of a small fragment of tissue removed for verification of the angiomatous nature of the tumor described above. Microscopic sections showed congeries of large vascular blood-filled spaces. These spaces were lined by endothelium and contained scattered strands of smooth muscle in their walls. No well-defined internal and external elastic lamellae were apparent on treatment with special stains, and the entire architecture indicated that the channels were of venous derivation (fig. 7*a*).

Case 4.—A 21-year-old man was examined in September, 1956. A port-wine nevus on the left side of the forehead had been noted at birth. At the age of 6 months he had suffered sudden flaccid weakness of the right arm and leg which had slowly returned to normal in two months; but the patient had then become left-handed. At this time had begun a series of generalized seizures which lasted for a few months and spontaneously ceased. There had been evidence of slow motor development. Generalized seizures had begun again when he was 13 years of age and had continued to the time of admission. These had varied in frequency from one every four months to 12 a day. The patient also reported a number of minor blackout spells and said anticonvulsant therapy had been ineffective.

At examination the port-wine nevus on the left side of the forehead was noted, and the extremities on the right were found to be slightly weak. The patient had slight ataxia and increased stretch reflexes bilaterally with no evidence of pathological toe signs. An electroencephalogram displayed a generalized dysrhythmia, grade 2. Cranial roentgenograms showed typical calcifications in the posterior parietal region on the left. Bilateral carotid angiograms did not indicate abnormality. Pneumoencephalograms revealed atrophy of the left cerebral hemisphere. Ophthalmological examination disclosed a small angioma of the choroid in the left eye. Electrocorticography revealed an epileptogenic focus.

Fig. 6 (case 3).—Pneumoencephalograms (*a*, posteroanterior; *b*, lateral) showing atrophy of left cerebral hemisphere and cystic collection of air over left cerebral hemisphere.

Left parieto-occipital lobectomy was carried out (by Dr. C. S. MacCarty). Postoperatively the patient had right homonymous inferior quadrantanopsia with macular sparing.

Otherwise he was normal. He was dismissed after being given prescriptions for primidone (Mysoline) and mephobarbital (Mebaral).

A letter received in January, 1957, reported that the patient was feeling well and had had no seizures since the operation. The lesion in the left eye was unchanged.

Pathological Aspects.—The gross specimen consisted of a more or less triangular section of brain measuring 6 by 4 by 2 cm. and weighing 25 Gm. The convoluted surface appeared compressed by a grossly discernible, dark-reddish, spongy zone of proliferated blood vessels.

Microscopic sections exhibited in all essential details the features described for the lesions in cases 1 and 2. Convolutional calcification was prominent, and pericapillary beading, parenchymatous degeneration, and gliosis were apparent in most of the sections (fig. 7*b*).

Comment

All of the patients in this study of encephalotrigeminal angiomatosis fulfilled the criteria of Greenwald and Koota [1c] in that two or more of the following features were present in each: (1) facial nevus, (2) convulsive disorder, (3) spastic hemiplegia, (4) mental retardation, and (5) characteristic roentgenographic abnormalities. More specifically, every patient had either a typical facial nevus or pathognomonic calcium deposits as demonstrated roentgenologically. But we found, as have others, that there was considerable variation of features from case to case. Poser [12] described three kinds of cases: typical, with a port-wine nevus and at least two other listed features; incomplete, with the skin lesion absent but other features present; and atypical, with a skin lesion other than a venous angioma, as well as other features. By these criteria, 30 of our cases would be typical or incomplete. None of the patients in the series had a skin lesion other than a venous angioma, but in the remaining five only two of the listed features were present: two patients had the typical facial nevus and ipsilateral glaucoma, and three had such a skin lesion and a convulsive disorder. In our opinion the absence of a facial nevus does not rule out the diagnosis of encephalotrigeminal angiomatosis; nor does the absence of characteristic roentgenographic findings rule out such a diagnosis, provided other criteria indicate the presence of a meningeal angioma.

The fact that the expected roentgenographic abnormality was not discoverable in a few of our patients even as adults and despite repeated examinations supports the contention of Lichtenstein [1d] that the calcification is caused by diminution of the blood supply to the brain and that this result of interference by the vascular malformation causes the sclerosis and atrophy of brain parenchyma also, but that if these changes occur early in life the obstruction to the flow of blood may become complete so that there is little chance for deposition of calcium in the tissue. Our case 2 was of particular interest because we were able to follow the development of calcification by roentgenograms of the skull. Other investigators also have reported cases in which roentgenographic abnormalities appeared some years after the examination that revealed other features of the disease. We agree with Lichtenstein [1d] that the cortical changes are related to the progression of capillary stagnation secondary to the pial angiomatosis. On this basis it seems that early surgical treatment of the angiomatosis might protect the underlying brain from progressive deterioration.

Angiography, performed in five cases, failed to show a vascular abnormality. Poser [13] believed that angiography should be performed early in suspected cases of encephalotrigeminal angiomatosis before calcification has a chance to obscure the vascular

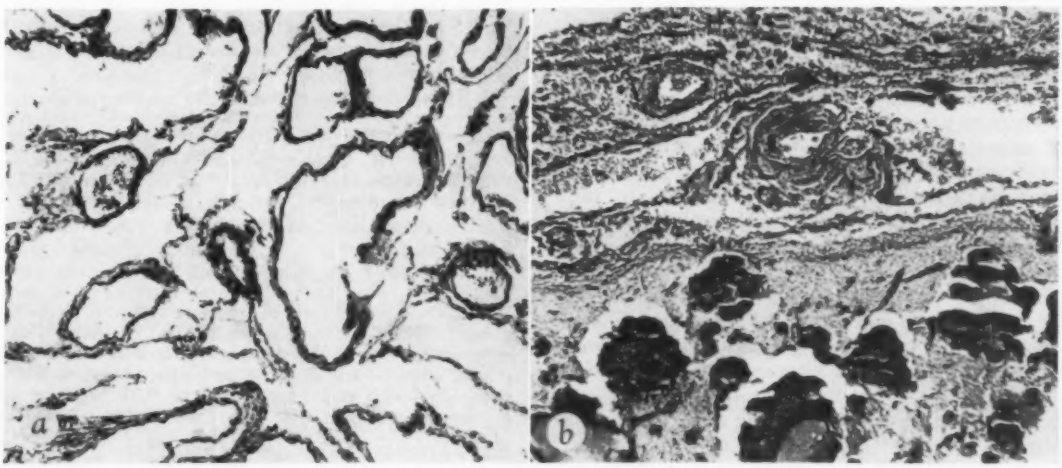

Fig. 7 (case 3).—*a*, large vascular spaces containing smooth muscle cells in their walls but almost devoid of elastica (hematoxylin and eosin; magnification 100 ×). *b* (case 4), pial angiomatosis with convolutional cerebral calcification—compare with figure 3*a* (hematoxylin and eosin; magnification 100 ×).

anomaly. He stated that if an angioma can be shown, rapid and extensive calcification probably will occur. In reviewing 50 cases of encephalotrigeminal angiomatosis in which angiography had been tried, he found 46% positive for a vascular anomaly, most of them during the first decade of life. Interestingly, he also found a number of vascular anomalies other than venous angiomas—such as arterial thrombosis, anomaly of the venous sinuses, and an arteriovenous malformation. Pneumoencephalograms were made in five cases, and all showed atrophy of the affected cerebral cortex.

We are impressed with the fact that almost half the patients in this series lead a comfortable life with the help of anticonvulsant medication and ophthalmological treatment as indicated. Generally these are patients with little or no mental retardation and neurological deficit. Most authors have stressed the progressive deterioration of patients with encephalotrigeminal angiomatosis.

Wohlwill and Yakovlev [1e] stated that the leptomeningeal angiomas are true neoplasms capable of proliferating and displacing brain matter. This might account for the fact that many patients do show progressive deterioration as well as the fact that convulsions and glaucoma occur later in life among some who exhibit the other features in infancy. These authors also were impressed by the polymorphism of the histopathological changes in different cases and in different organs in the same case.

The importance of making an early diagnosis is the greater since neurosurgical techniques have evolved to the point that cortical excision and hemispherectomy are procedures which can be used with success in selected cases.[14] If anticonvulsant therapy is ineffective in controlling seizures and the patient is not deteriorated past all hope of salvage, surgical removal of the offending angioma and affected cerebral cortex can be offered with a good chance for a successful outcome. In addition to control of seizures and behavior problems, an apparent increase in intelligence after a surgical excision of the diseased structure has been observed by us in case 2 and has been reported by others from several cases.

Summary

The clinical manifestations in 35 patients with encephalotrigeminal angiomatosis (Sturge-Weber disease) consisted of convulsions, cutaneous angiomas, characteristic roentgenographic findings, mental retardation, ocular involvement, and hemiplegia, in that order of frequency. The case histories of four patients who underwent craniotomy show that two were markedly benefited by excision of the abnormally developed cerebral cortex and meninges. The variability of findings from patient to patient is noteworthy, as is the fact that in almost half the patients the course was not unfavorable. In patients who do not respond to anticonvulsant therapy, surgical excision of the diseased cerebral cortex may offer a good chance for recovery of normal activities and prevent the progression of neurological complications which occur in approximately half of the patients with this disorder.

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CAROTID ARTERY MURMURS

CONTINUOUS MURMUR OVER CAROTID BULB—NEW SIGN OF CAROTID ARTERY INSUFFICIENCY

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In carotid artery insufficiency, when collateral circulation through the opposite carotid and the basilar system is inadequate, a continuous murmur is produced, usually over the carotid bulb, the most common site of involvement. Routine auscultation of the head and neck can reveal a localized continuous murmur over this partially occluded carotid bulb. This may be the earliest sign of carotid artery insufficiency. When the lumen narrows with atheromatous deposits in the carotid bulb, a systolic murmur appears first. As the lumen further narrows, and if collateral circulation is inadequate, a continuous murmur will appear. When a systolic or continuous murmur is detected over the carotid, one should be cautious not to attribute all central nervous system symptoms to carotid artery obstruction. Early surgery or anticoagulants may alleviate symptoms and prevent later complete thrombosis and irreversible neurological changes.

The classic clinical syndrome of carotid artery thrombosis, namely, monocular blindness with contralateral motor and sensory disturbances, is today well recognized. An excellent review of the syndrome points out the varied clinical manifestations.[1] The clinical spectrum of obstruction of the carotid artery without occlusion is much more common than is generally appreciated and usually goes unrecognized. We have been repeatedly confronted with the syndrome of carotid artery insufficiency because of its close relationship to changes in blood pressure and cardiac output. Until recently routine autopsy examination of the carotid arteries has not been done. Fisher,[2] in 432 consecutive unselected autopsies in which the brain and carotid arteries were completely examined, found a total of 41 patients with partial or complete occlusion of one or both carotids. In contrast, there were only 12 cases of small vessel occlusion adjacent to the circle of Willis in this group. This is in close agreement with our recent clinical experience in that major arterial insufficiency to the head, namely carotid and basilar, is probably as common as the "routine stroke."

The role of palpation in diagnosis of carotid occlusion has been emphasized,[3] but its limitations have been noted previously.[4] In partial occlusion of the carotid, palpation of the neck or pharynx has no particular merit, as clear-cut differences of pulsation are difficult to ascertain or evaluate.

The murmurs associated with carotid artery disease have received little attention. The intracranial systolic bruit heard best over the eyeball was recently described by Cohen and Miller.[5] It represents narrowing of the intracranial portion of the internal carotid at the siphon and is transmitted and heard best over the ipsilateral eyeball (fig. 1*A*). Systolic murmurs over the carotids in the neck have been noted, and Fisher [6] has described their relationship to carotid occlusive disease.

A systolic murmur may be heard over a partially occluded internal carotid at the angle of the jaw (fig. 1*A*). It may be transmitted up the carotid into the cranium and heard over the ipsilateral eye. A systolic murmur may be produced by a partial narrowing at the carotid siphon and may be heard best over the nearest eye (fig. 1*A*). These may be present with or without contralateral carotid thrombosis (fig. 1*B*) and depend on the degree of local arterial narrowing and compensatory increases in blood flow. A systolic murmur may be paradoxically present on the side of carotid thrombosis when turbulence of flow through a partially narrowed external carotid is produced by an increase in collateral flow around the occluded internal carotid (fig. 1*C*). Occasionally, one of these murmurs will disappear when a preexisting severe anemia is compensated.[7]

Auscultation of the head and neck is not done frequently enough or with sufficient care. Routine auscultation of the head and neck has revealed a localized continuous murmur over the partially occluded carotid bulb, the most common site of atheromatous involvement.[8] It has not been previously recognized that this may be the earliest sign of carotid artery insufficiency. The murmur may herald complete occlusion of the carotid and irreversible neurological deficits. This continuous murmur has led us to the early recognition of this syndrome in a large group of patients and appears

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far more specific than systolic murmurs alone. The following cases are representative of this clinical experience.

Report of Cases

CASE 1.—A 55-year-old woman experienced four transient episodes of monocular blindness 15 months prior to admission. Three episodes involved the right eye and one the left eye, and the attacks were always associated with the upright position. The episodes consisted of a sensation of a window shade descending gradually over the eye until total monocular blindness occurred. After approximately one minute the vision would return rather jerkily by levels until there was complete restoration of vision. There were no associated motor or sensory disturbances. The patient had remained symptom-free until three and one-half months prior to admission, when she noted progressive difficulty in the use of the right hand. Two months prior to admission there was a transient episode of weakness on the left side. There was no history of diplopia, vertigo, or dysphasia. Her father had died of a cerebral vascular accident at the age of 73, and a sister had died of coronary thrombosis at the age of 43. The patient's blood pressure was 140/90 mm. Hg in the left arm and 110/90 mm. Hg in the right. The right radial pulse was diminished. The carotid vessels pulsated vigorously to the angle of the jaw. Auscultation over the right carotid revealed a harsh grade 3 systolic murmur. There was a palpable thrill over the left carotid bulb, and a grade 3 continuous murmur was present (fig. 2). Changes in position, jugular compression, and the Valsalva maneuver produced no appreciable changes on the murmur. There was no evidence of venous collateral circulation. Carotid compression just proximal to the bulb obliterated the murmur on the ipsilateral side and accentuated the contralateral murmur. On compression of the left carotid artery the previously noted systolic murmur over the right carotid bulb became continuous. There was bilateral diminution of the pharyngeal carotid pulsations, and this was more evident on the left. The visual fields were normal. The fundi revealed grade 2 changes. The heart was not enlarged, and there was a grade 1 to 2 aortic systolic murmur. The neurological examination was negative except for motor weakness of the right arm. The cranial nerves were intact, save for slight flattening of the left nasolabial fold. The remainder of the neurological examination was normal. The electrocardiogram was normal. X-rays of the skull and neck revealed calcium plaques in the carotid arteries. The serum cholesterol level was 299 mg.%. The electroencephalogram was normal. After compression of alternate carotids for 10 seconds frontal dysrhythmic changes occurred on the side of carotid compression.

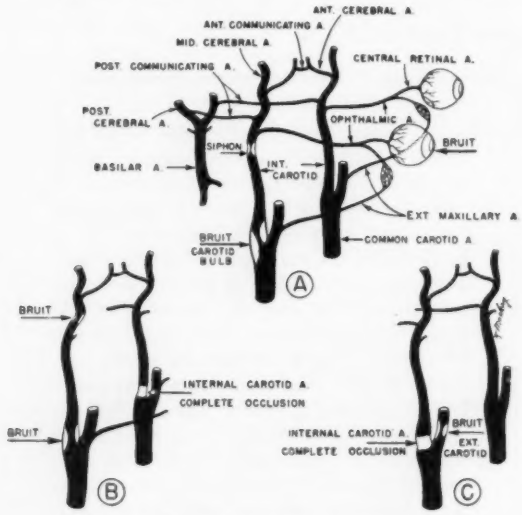

Fig. 1.—Sites of carotid artery murmurs.

Course in Hospital.—The patient experienced one episode of weakness on the left side concomitant with a drop in blood pressure from 140/90 to 120/80 mm. Hg, probably induced by oversedation. Function rapidly returned with restoration of blood pressure to the previous levels. The condition of the patient has remained stable with short-term anticoagulant therapy.

The history is quite typical of carotid artery insufficiency. The striking physical findings were the loud murmurs (fig. 2) localized to the carotid bulbs, and these were a valuable adjunct in substantiating the history of carotid artery insufficiency. The systolic murmur over the right carotid became continuous when a diastolic pressure gradient was produced by a further reduction in collateral circulation with manual occlusion of the left carotid (see Comment).

CASE 2.—A 76-year-old man with a long history of hypertension and rheumatic heart disease, with asymptomatic mitral stenosis, suddenly began experiencing episodes of monocular blindness of the left eye. This was followed in several weeks by repeated bouts of postural syncope without neurological deficits. The blood pressure was 210/120 mm. Hg while he was in the recumbent position and 200/130 mm. Hg while he was in the upright position. The fundi showed grade 2 arteriosclerotic changes. The blood vessels including the carotids appeared adequate and equal in their pulsations. Auscultation revealed a loud, grade 3 continuous murmur over the left carotid bulb. Compression of the left carotid below the bulb obliterated the murmur. There was no evidence of venous collateral circulation. The heart was slightly enlarged. The aortic second sound was greater than the pulmonic second sound, and a grade 3 diastolic rumble of mitral stenosis was present. The neurological examination was negative.

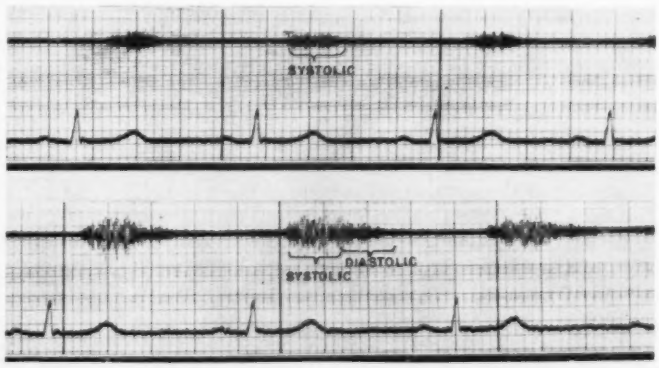

Fig. 2 (case 1).—Murmur of carotid artery insufficiency. *Top*, systolic murmur in right carotid bulb. *Bottom*, continuous murmur in left carotid bulb. Stethograms were recorded with paper speed of 75 mm. per second.

Episodes of monocular blindness are the hallmark of carotid obstruction.[9] The continuous murmur was present over the carotid bulb ipsilateral to the monocular blindness. This is understandable, since the central retinal artery is an end artery with no collateral circulation originating from the ophthalmic artery, the first branch of the internal carotid (fig. 1A). In addition to carotid obstruction, changes in blood pressure on assumption of the upright position and hypersensitive carotid sinus mechanism are much greater in these patients with cardiac and cerebral vascular disease.[10] Insignificant falls in blood pressure in patients with carotid obstruction may produce retinal and cerebral ischemia. Postural syncope and monocular blindness are features of this patient's illness. The continuous murmur over the carotid bulb was the only physical finding.

CASE 3.—A 70-year-old man was admitted to the hospital for evaluation of hypertension of 10 years' duration. There was a history of diabetes of 15 years' duration. Over the past year there had been transient bouts of numbness and motor weakness of the right arm primarily occurring when he was in the upright position, lasting from minutes to hours and always completely resolving. There were no symptoms of peripheral neuropathy. The blood pressure was 190/110 mm. Hg with the patient lying down and 180/100 mm. Hg with the patient standing. The blood vessels, including the carotids, were all palpable and equal. The fundi showed grade 2 arteriosclerotic changes. Auscultation revealed a loud grade 3 continuous murmur over the left carotid bulb. Again, compression of the carotid below the bulb obliterated the murmur. Over the left eyeball a faint systolic murmur was also present. The patient's heart was normal in size without murmurs. The neurological examination was completely negative.

Recurrent episodes of monoparesis occur in approximately 15% of patients with carotid obstruction.[1] The transient localized neurological symptoms and relation to posture without evidence of peripheral neuropathy make diabetic neuropathy unlikely. Again, the striking continuous murmur over the left carotid bulb was the important clue to the most logical diagnosis.

CASE 4.—A 43-year-old man with a long history of chronic glomerulonephritis, hypertension, and angina pectoris was admitted with acute myocardial infarction. His blood pressure had been in the range of 200/100 mm. Hg for several years. There were no neurological symptoms. His blood pressure was 140/90 mm. Hg bilaterally. The fundi showed grade 2 arteriosclerotic changes. The peripheral vessels were all palpable and equal. The carotids were equal on both pharyngeal and neck palpation. Over both carotid bulbs were loud, grade 4 continuous murmurs (fig. 3). (This murmur is virtually inaudible a few centimeters down the carotid as sound transmissibility is maximal in the direction of blood flow. It is for this reason that carotid bulb murmurs are overlooked in the routine auscultation of the heart and vessels at the base of the neck.) Manual occlusion of one carotid obliterated the ipsilateral murmur and accentuated the contralateral murmur. The heart was enlarged with a gallop rhythm. The neurological examination was negative. The electrocardiogram revealed extensive anterior infarction. The hospital course was uneventful.

About 15% of patients with complete occlusion of the carotid may have no neurological symptoms.[2] In Fisher's autopsy group, severe stenosis of the carotid was present in 3% without significant neurological symptoms. He reports that compromise to 0.5 mm. is the critical lumen area before neurological symptoms appear, but this will depend entirely on the status of collateral circulation. In figure 4 is the postmortem angiogram and dissected carotid artery specimens of an asymptomatic patient with a grade 4 continuous murmur well localized over the right carotid bulb. The carotid bulb is narrowed to 1 mm. It is not surprising then that systolic or continuous murmurs may be detected in patients both with and without neurological symptoms. Lyons [11] has recently observed a case where the bruit over the carotid artery and a roaring sensation in the head gradually diminished and became imperceptible as the carotid lumen became occluded and neurological symptoms progressed. Carotid surgery restored continuity of the vessel with regression of neurological symptoms. As Fisher has pointed out with illustrative cases, unexplained and seemingly psychic noises in the head may indeed be related to turbulence of blood flow of a partially obstructed carotid.[6]

Fig. 3 (case 4).—Continuous murmur in carotid artery insufficiency. *Top*, stethogram is from localized continuous murmur over left carotid bulb. *Bottom*, stethogram is from 5 cm. below carotid bulb on ipsilateral common carotid. Both stethograms were recorded with paper speed of 75 mm. per second.

Comment

Myers and co-workers [12] with particular reference to the aortic arch syndrome predicted that if the same hemodynamic situation existed in other vessels a continuous murmur would be present over the site of obstruction. All of the reported continuous murmurs in the aortic arch syndrome were present at the base of the neck over the partially occluded great vessels [12] (fig. 5). The continuous

murmur of aortic arch syndrome is usually maximal at the base of the neck over the partially occluded great vessels. It may be widely transmitted over the thorax simulating arteriovenous fistulas and may be transmitted up the carotid. Manual compression of the opposite carotid further increases the systolic-diastolic pressure gradient and accentuates the continuous murmur. In contrast, the carotid murmur is well localized over the carotid bulb and is transmitted with blood flow up the carotid. It is absent or only faintly present at the base of the neck (fig. 3). Intracranial transmission may be occasionally detected by listening over the eyeballs. By the production of a similar hemodynamic situation in animals, Myers and associates [12] were able to substantiate their hyopthesis that a continuous murmur over a partially occluded artery was due to collateral circulation inadequate to maintain diastolic pressure distal to the partially obstructed segment. In this situation both a systolic and diastolic pressure gradient is present across the partially occluded segment, and turbulence of flow in both systole and diastole creates a continuous murmur over a partially occluded vessel. In carotid artery insufficiency when collateral circulation through the opposite carotid and the basilar system is inadequate a continuous murmur is produced, usually over the carotid bulb, the most common site of involvement (fig. 1A). This may be confused with an arteriovenous fistula. It would appear that a continuous murmur over the carotid bulb is much more specific for carotid insufficiency than a systolic murmur alone, since it is a reflection of both a systolic and diastolic pressure deficit of the cerebral circulation. We have seen a 64-year-old female with bilateral continuous carotid bruits associated with a severe anemia (hemoglobin level, 6.5 Gm.%). These bruits disappeared with transfusion which raised the hemoglobin level to 10.5 Gm.%.

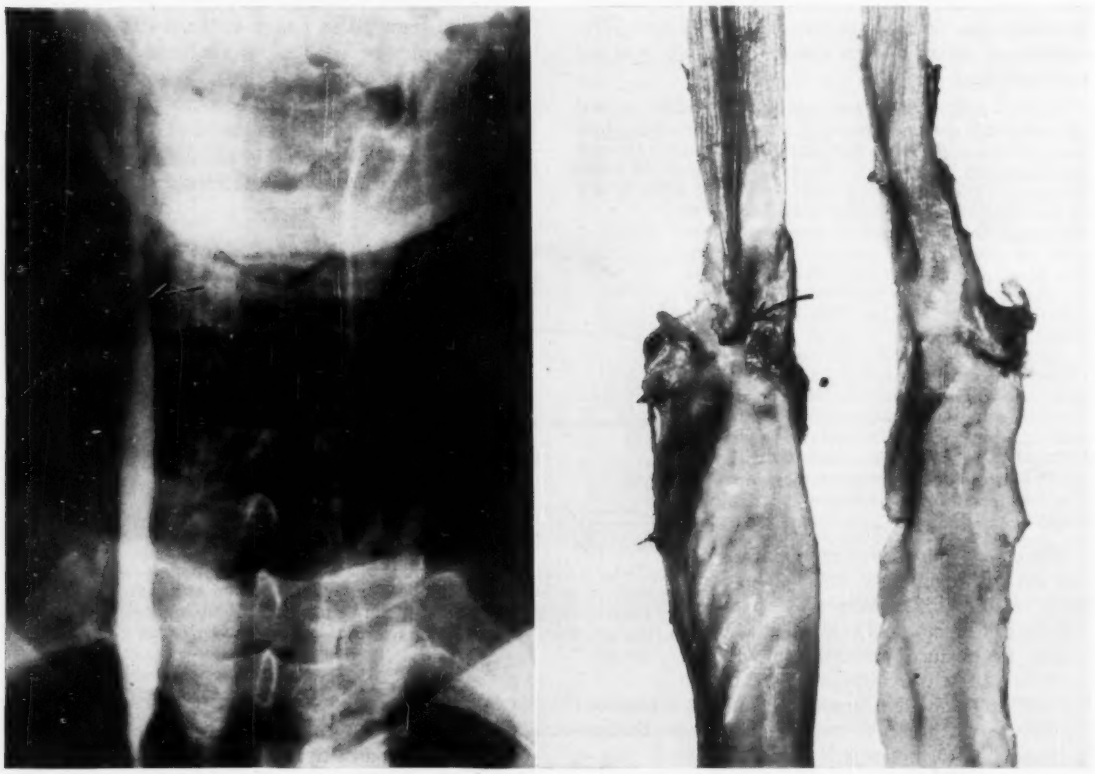

Fig. 4.—Postmortem angiogram and dissected carotid artery specimens of asymptomatic patient with grade 4 continuous murmur over right carotid bulb. Bulb of right carotid is narrowed by atheromatous plaque to 1 mm. Atheromatous involvement was higher in left carotid.

We have correlated localized carotid bulb murmurs in several groups of patients specifically for their incidence and significance. Patients with severe anemia, carotid murmurs related to aortic valve disease, arteriovenous fistulas, and venous hums have been carefully excluded from this study.

We made a survey of localized carotid bulb murmurs in 100 consecutive unselected patients from Emory University and Grady Memorial hospitals. The average age was 52 years (50 males with average age of 51.1 years and 50 females with

average age of 53.2 years). Their collateral circulation would appear adequate. A total of nine patients (9%) had loud localized systolic or continuous murmurs over the carotid bulb. Only two of these patients had neurological symptoms attributable to vascular insufficiency. A well-localized systolic murmur was present over the carotid bulb in seven patients; one patient (a 60-year-old woman) had bilateral systolic murmurs and episodes of bilateral motor weakness. Two patients had continuous murmurs. One of these, a 39-year-old woman, had hypertensive vascular disease and was asymptomatic; the other patient is described in case 3.

It would appear that the survey of an older age group with more advanced cerebral vascular and carotid disease would complement the preceding survey. One hundred consecutive patients from Battle Hill Haven were examined. Their average age was 75.7 years (50 males with an average age of 76.2 and 50 females with an average age of 75.2 years). The incidence of localized carotid murmurs in this group was essentially the same (8%) as in the younger group. However, six of the eight patients with murmurs had overt neurological symptoms. The close relationships of the neurological deficits to the murmurs are best correlated with figure 1. The increased incidence of neurological symptoms is related to age and advance in cerebral vascular disease and inadequacy of collateral circulation. Localized systolic murmurs were present in seven patients. Five of these patients were symptomatic, with serious neurological deficits: Three had hemiplegia (two complete and one transient) contralateral to the murmur; one had hemiplegia ipsilateral to the murmur and contralateral carotid thrombosis; and one had senile dementia, with episodes of confusion, and bilateral systolic murmurs. One patient had a continuous murmur, with hemiplegia and aphasia contralateral to the murmur.

In a four-month period we have observed eight patients with a well-localized continuous murmur over the carotid bulb. Five of the eight patients had serious neurological symptoms clearly related to carotid artery insufficiency: one had bilateral neurological deficits, two had neurological deficits contralateral to the carotid bulb murmurs; three had monocular blindness ipsilateral to the carotid bulb murmur, with postural syncope; and one had postural syncope, with bilateral continuous murmurs. The three patients without neurological symptoms had advanced arterial disease in other vessels: two had hypertensive vascular disease (one with myocardial infarction) and one had angina pectoris. Figure 1 illustrates further correlation of the murmurs and related symptoms.

Bruits and subjective noises have been observed by physician and patient in carotid insufficiency.[13] When the lumen narrows with atheromatous deposits in the carotid bulb, a systolic murmur appears first. As the lumen further narrows, and if collateral circulation is inadequate, a continuous murmur will appear. Spontaneous falls in blood pressure or cardiac output, usually associated with assuming the upright position, may produce transient neurological symptoms opposite the side of carotid obstruction. When the vessel becomes occluded, the murmur and subjective noises will cease and irreversible neurological deficits may follow, depending on the adequacy of the collateral circulation. When a systolic or continuous murmur is detected over the carotid one should be cautious not to attribute all central nervous system symptoms to cartoid artery obstruction. The internal carotid system supplies the frontal, temporal, and parietal lobes, the homolateral retinas, and the posterior limb of the internal capsule. Symptoms related to carotid obstruction will originate in these areas. Carotid obstruction may be asymptomatic. It may coexist with an expanding intracranial lesion or cerebral vascular disease in other sites. These murmurs may, therefore, be only indirectly related or totally unrelated to the coexisting neurological symptoms. The occurrence of murmurs and neurological symptoms may be fortuitous, and care should be exercised in drawing conclusions. This

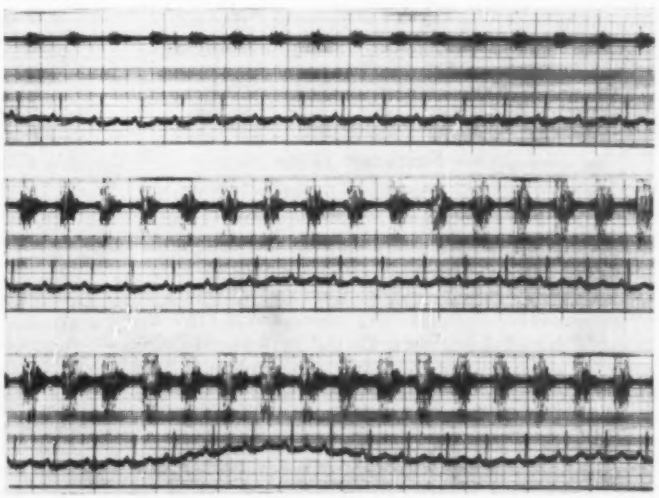

Fig. 5.—Continuous murmur of aortic arch syndrome in patient (female, aged 39) with stenosis of right innominate vessel by arteriography. *Top*, transmitted systolic murmur of right carotid bulb. *Middle*, continuous murmur of right supraclavicular fossa. *Bottom*, marked accentuation of continuous murmur with contralateral carotid compression. All stethograms were recorded with paper speed of 25 mm. per second.

continuous murmur may, therefore, coexist with signs and symptoms primarily related to basilar artery insufficiency. It is a direct reflection of an inadequate collateral circulation to the basilar system and probably is in part responsible for the resulting basilar artery symptoms. However, when signs and symptoms of cerebral vascular insufficiency are related to partial carotid obstruction the continuous murmur is usually present on the side opposite the neurological symptoms.

Rob and Wheeler [14] have done reconstructive carotid surgery on a large group of patients for carotid stenosis and thrombosis. The patients in this group who benefited were those with incomplete occlusion with transient symptoms of cerebral vascular insufficiency. This is the group in whom the neurological examination will most likely be negative and the only physical finding may be a systolic or continuous murmur over the partially occluded carotid. Early surgery may alleviate symptoms and prevent later complete thrombosis and irreversible neurological changes. Anticoagulant therapy [15] would appear beneficial in patients not suitable for surgery as prophylaxis against complete occlusion or emboli from the site of obstruction.[6]

Summary

Localized carotid murmurs are related to partial and complete occlusion of the internal carotid artery, and there are various sites at which the murmurs can be detected. The incidence of localized carotid systolic and continuous murmurs is approximately 7% and 2%, respectively, in unselected hospital patients. Partial occlusion of the carotid artery is much more common than has previously been recognized. Auscultation of the head and neck is not done frequently enough or with sufficient care. A continuous murmur over the carotid bulb is a valuable sign of carotid artery insufficiency. This continuous murmur has led us to the early recognition of this syndrome in (1) completely asymptomatic patients with unsuspected carotid artery insufficiency, (2) patients in whom the diagnosis of "cerebral thrombosis" had been entertained, and (3) patients in whom transient neurological symptoms appeared usually in relation to changes in blood pressure. Carotid artery insufficiency is treatable by both surgery and anticoagulant therapy. Its early recognition and appropriate therapy before complete thrombosis occurs may favorably influence the therapeutic results.

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KIDNEY BIOPSIES.—Throughout the period from January 1954 to January 1958 seventy-four kidney biopsies have been attempted in our hemodialysis unit; nineteen of these biopsies were carried out from one to six days prior to the hemodialysis. In eighteen patients there were no complications on taking the biopsy specimen, or in connection with the subsequent hemodialysis. In one patient (acute anuria), hemodialysis had to be instituted twenty-four hours after the kidney biopsy because of the sudden onset of unexpected hyperpotassemia; after a few hours of dialysis profuse urethral bleeding occurred owing to a fistula which had developed between the renal pelvis and the renal artery as a result of the biopsy. Nephrectomy was necessary; the patient recovered. We are of the opinion that kidney biopsy prior to hemodialysis is valuable and justifiable, but that it is advisable to wait two or three days after a biopsy before subjecting the patient to hemodialysis.—Claus Brun, M.D., and Flemming Raaschou, M.D., Kidney Biopsies, *The American Journal of Medicine*, May, 1958.

ILEAL RESERVOIR (URETEROILEOURETHRAL ANASTOMOSIS)

METHOD OF URINARY DIVERSION

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and
Garfield L. Suder, M.D., Cincinnati

Ureteroileourethral anastmosis is a new method of urinary diversion which allows a patient to void in the normal manner. This is a procedure which permits complete removal of the bladder without likelihood of retrograde kidney infection. The left ureter is transplanted to the side of the isolated ileal segment near its proximal end, and the right ureter is anastomosed to the side of the loop distal to the left ureter. The loop is doubled back on itself, and the urethra is joined to the side of the loop just proximal to the distal end. A catheter is passed through the urethra into the new bladder and remains in place for three weeks. There does not appear to be any disturbance of electrolyte balance through absorption from the segment.

Recently, due to growing recognition of the value of radical surgery of the bladder, there has been increased interest in techniques of urinary diversion. This interest was highlighted by the development of the ileal conduit operation, which supplanted ureterosigmoidostomy with its occasional sequelae of ascending renal infections, hydronephrosis, and hyperchloremic acidosis. Merrick's ileocecal bladder eliminated the principal objection to the conduit procedure—that is, the necessity of wearing cumbersome urinary appliances—but it required insertion of a catheter through the abdominal ileostomy opening to evacuate the bladder.

A procedure which permits complete removal of the bladder without likelihood of retrograde kidney infection and which enables the patient to void in a normal manner should be welcomed. In 1951, in Paris, Couvelaire [1] anastomosed the side of the lower end of an isolated loop of ileum, to which the ureters had been joined, to the prostatic urethra. The upper end of the loop was brought to the surface of the abdomen as in an ileostomy. Later, the ileostomy was closed and the patient was able to void. In Leeds, Pyrah [2] used a somewhat similar technique in two patients, and his colleague, Mr. Raper, operated on a third patient in like fashion. Makuuchi [3] carried out the procedure in five patients, using the sigmoid instead of ileum in one.

Pyrah's technique consists of anastomosing the ureters into the two ends of an isolated ileal loop. Then the urethra is joined to the side of the midportion of the isolated segment. In all instances, the patients voided easily and had good continence. There was complete absence of ureteric reflux in all cases and only a small amount of residual urine. Intravenous urograms three months postoperatively showed no dilatation of the upper urinary tract.

In this procedure the drainage from the left ureter easily passes down the ileum in an isoperistaltic direction on its way to the urethra. However, as urine must pass in an antiperistaltic direction on the right side, increased pressure within the right upper urinary tract may occur in later years. To circumvent this possible complication, we decided to modify the technique as follows: The left ureter is transplanted to the side of the isolated ileal segment near its proximal end, and the right ureter is anastomosed to the side of the loop distal to the left ureter. The loop is doubled back on itself, and the urethra is joined to the side of the loop just proximal to the distal end (fig. 1). A catheter is passed through the urethra into the new bladder and remains in place for three weeks.

From the Veterans Administration Hospital and the University of Cincinnati.

Report of Cases

CASE 1.—A 26-year-old male was referred by his private physician with a diagnosis of carcinoma of the bladder. During the previous year, he had been confined to three different hospitals for persistent frequency, urgency, and marked dysuria with hematuria. Several cystoscopic examinations were performed during this period, all of which led to a diagnosis of cystitis. In December, 1957, transurethral biopsy of the bladder showed a transitional-cell carcinoma of the bladder, and on Jan. 21, 1958, he was admitted to the Veterans Administration Hospital, Cincinnati. He had lost about 13 lb. (6 kg.) during the 10 months before admission.

This well-developed but thin patient had a blood pressure of 120/75 mm. Hg. No costovertebral angle tenderness was elicited, and the liver, spleen, and kidneys were not palpable. There was some tenderness in the suprapubic area. The prostate was firm, and no masses were felt in the region of the bladder. Culture of the urine showed Pseudomonas aeruginosa. The blood urea nitrogen level was 12 mg. per 100 cc., sodium level 147.5 mEq. per liter, chloride level 107 mEq. per liter, potassium level 4.9 mEq. per liter, and carbon dioxide–com-

bining power 23.2 mEq. per liter. Intravenous urography was essentially normal, and osseous metastases were not seen radiographically.

On Feb. 12, 1958, with the patient under general anesthesia, and through a Cherny incision, a total cystectomy was performed, and at the same time approximately three-quarters of the prostate gland was removed. The peritoneum present-

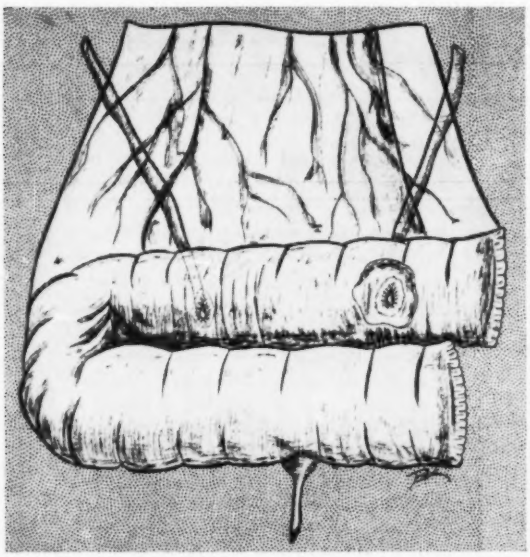

Fig. 1.—Ileal reservoir on completion of surgery.

ing through the wound was opened in the midline, and an appendectomy was performed. A segment of intestine approximately 10 in. long and 6 in. distal to the ileocecal valve was isolated, and the ends of the segment were closed, with use of an inner layer of catgut suture and an outer layer of silk. After the intestine had been anastomosed, the isolated segment was brought down through the peritoneal opening,

Fig. 2.—*Left* (case 1), patient voiding, with good stream, six weeks postoperatively. *Right* (case 2), patient voiding, with good stream, eight weeks postoperatively.

and the peritoneum was closed about the mesentery. The left ureter was then anastomosed to the side of the proximal end of the segment, with use of a Nesbit mucosa-to-mucosa technique. In the same manner, the right ureter was anastomosed to the segment about 3 in. distally. The intestine was bent into a "C," and the prostatic capsule and urethra were sutured to an opening in the side of the segment approximately 2 in. proximal to the distal end. A 18 F. Foley catheter was passed through the penis into the ascending limb of the segment, and the bag was distended with 30 cc. of clear water. Drains were placed, and the wound was closed.

After removal of the urethral catheter three weeks postoperatively, the patient voided well and easily. He was continent during the day but had stress incontinence at night during the first two weeks. At first, micturition took place about once every hour. After two months, he urinated about every two and a half hours (fig. 2, *left*), passing 7 oz. of urine, with less than 20 cc. of residuum, and was completely continent.

Intravenous urography performed two months postoperatively showed normal results. On March 25, 1958, approximately six weeks postoperatively, the serum chloride level was 100 mEq. per liter, serum sodium level 150 mEq. per liter, and serum potassium level 4.8 mEq. per liter.

The patient returned to work. Four weeks later, toward the end of April, he began complaining of pain in the musculature of the back from the sacroiliac junction to the upper rhomboid area. There was considerable spasm of the

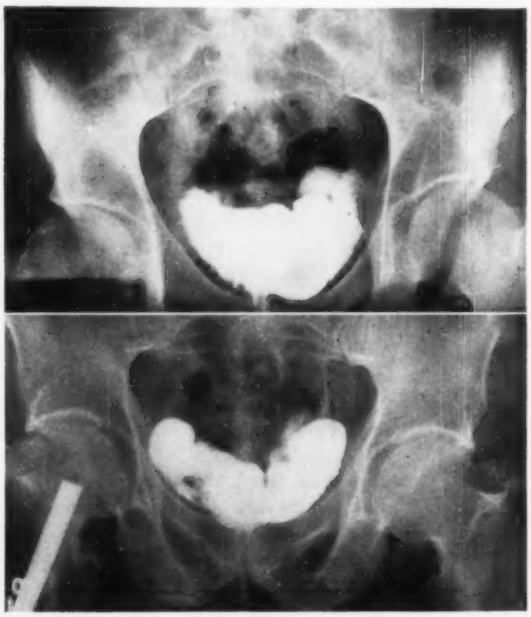

Fig. 3.—*Top* (case 1), cystogram taken four weeks postoperatively. Note absence of ureteric reflux. *Bottom* (case 2), cystogram taken eight weeks postoperatively, showing bilateral ureteric reflux.

sacrospinalis muscles but no costovertebral angle tenderness. Radiographic examination of the thoracic and lumbar vertebrae failed to demonstrate metastases.

After readmission of the patient on May 12, 1958, a spinal tap demonstrated partial subarachnoidal block. Shortly afterward the patient died. Autopsy showed several preaortic and iliac lymph nodes involved by metastases from the carcinoma of the bladder. The bodies of the thoracic and lumbar vertebrae were infiltrated with transitional cell carcinoma. The bladder substitute showed no inflammation. The ureteroileal junctions were open and without stricture, and the ureters were not dilated. The kidneys were the seat of chronic pyelonephritis. A large metastatic nodule was found in the liver. With hindsight, we feel that the lesion of the bladder had been present too long prior to treatment for a successful result.

CASE 2.—A 69-year-old male was referred by his private physician to the Veterans Administration Hospital, Cincinnati, on March 15, 1958, because of painless gross hematuria of two weeks' duration. When first seen, he had complete retention of urine and was in great pain. The blood pressure was 175/80 mm. Hg, and the bladder was palpable above the pubis, but there was no costovertebral tenderness. We removed 740 cc. of grossly bloody urine from the bladder by catheter. The hemoglobin level was 6.6 Gm. per 100 cc. and hematocrit reading 21% before the patient received a transfusion of whole blood.

On March 20, 1958, a cystoscopic examination revealed multiple papillary carcinomas of the bladder. A biopsy specimen was taken from the lesions, and the histological report was papillary carcinoma. Culture of the urine showed Alcaligenes. The blood urea nitrogen level was 20 mg. per 100 cc., sodium level 144.5 mEq. per liter, chloride level 100 mEq. per liter, potassium level 3.8 mEq. per liter, and carbon dioxide–combining power 18 mEq. per liter. A normal pyelogram of the right side appeared on intravenous urography, and a nonfunctioning kidney was found on the left. Osseous metastases were not seen radiographically.

On April 14, 1958, a total cystectomy, prostatectomy, and ureteroileourethral anastomosis were performed, using a technique identical to that in case 1. The patient voided well and easily when the urethral catheter was removed. At night there was some stress incontinence, but he had complete control during the day. He now voids about every one and a half hours (fig. 2 *right*), passing 4 oz. of urine with less than 30 cc. of residuum.

Intravenous urography performed three weeks postoperatively showed a normal right pyelogram and prompt excretion of pyelographic material on the left, with mild calicectasis. On June 9, 1958, the blood urea nitrogen level was 20 mg. per 100 cc., sodium level 152.5 mEq. per liter, chloride level 104 mEq. per liter, potassium level 4.8 mEq. per liter, and carbon dioxide–combining power 20.7 mEq. per liter.

The patient is able to recognize when the bladder is distended and to void without exerting manual pressure on the abdomen. Postoperative cystogram shows reflux up both ureters, most marked on the left, which was the side that showed no function preoperatively.

These two patients were able to retain urine over two and one-half and one and one-half hours, respectively, without voiding. They evacuated at least 4 oz. and had residual amounts of urine of less than 30 cc. Studies of blood electrolytes have shown no variation since prior to surgery. The intravenous urograms were normal at the time of the death of the patient in case 1, and in case 2 the patient showed regained function in the left kidney postoperatively, while the right side remained normal.

The cystograms for both patients (fig. 3) showed good appearance of the ileal reservoir. The cystometrogram for the patient in case 2 (fig. 4) demonstrated a pattern of intestinal motility. When the bladder contained 70 cc. of water, the pressure spiked to 71 cm. H_2O, which should have been sufficient to allow voiding. During the procedure, maximum pressure reached 82 cm. without straining at a volume of 132 cc. At 250-cc. volume, the patient stated that he had attained his maximum capacity, at which time the pressure was 62 cm. H_2O. By straining, he succeeded in raising this pressure to 91 cm. We intend to perform cystometography at intervals on this patient to determine if the pattern remains intestinal or changes later to that more typical of a normal bladder.

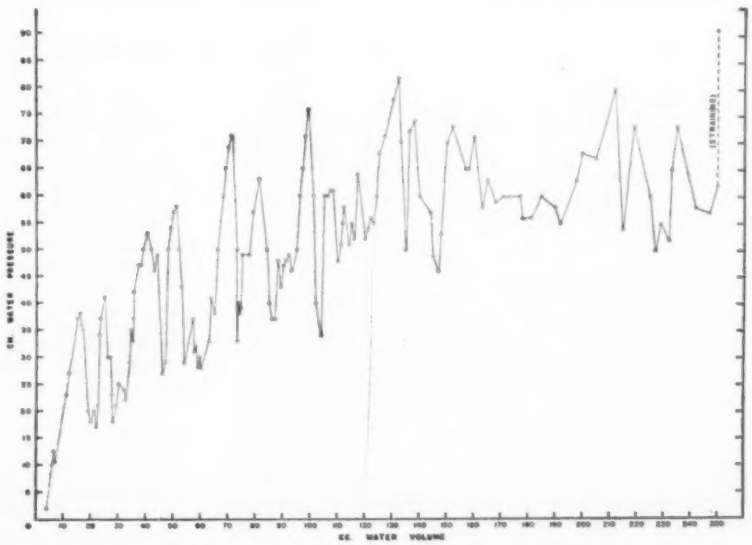

Fig. 4 (case 2).—Cystometrogram, six weeks postoperatively, demonstrating intestinal pattern.

Comment

Both patients were able to recognize when the bladder was distended and to void without exerting manual pressure on the abdomen. Both were continent during the day but had some difficulty maintaining continence during sleep.

As in cases previously reported by others, postoperative cystograms in our case 1 showed absence of ureteric reflux. However, the patient in case 2 has slight reflux up the right ureter and complete filling of the left ureter and renal pelvis.

Summary

Ureteroileourethral anastomosis is a new method of urinary diversion which allows a patient to void in the normal manner. We feel that after cystectomy for carcinoma of the bladder it may be preferable to other methods of diversion. There does not

appear to be any disturbance of electrolyte balance through absorption from the segment. Cystometrographically, the new bladder shows an intestinal pattern. We have performed this operation in two patients and feel that it merits further study and consideration.

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CLINICAL NOTES

ACUTE RENAL FAILURE AFTER INTRAVENOUS PYELOGRAPHY IN PLASMA CELL MYELOMA

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In 1954, Bartels and his associates [1] reported a patient with plasma cell myeloma (multiple myeloma, myelomatosis) who developed acute renal failure immediately after intravenous pyelography. Three additional patients with plasma cell myeloma, in whom intravenous pyelograms appear to have precipitated oliguria or anuria, have been described in the Scandinavian literature.[2]

Recently, we have observed this phenomenon in a patient with plasma cell myeloma in whom normal renal function was demonstrated immediately prior to pyelographic examination. Our observations of this patient have indirectly led to the recognition of pyelography-induced anuria in a woman with plasma cell myeloma.[3] The purpose of this communication is to focus attention on the potential danger of intravenous pyelography in patients with this disease and to discuss the pathogenesis of the acute renal failure in these patients.

Report of a Case

A 34-year-old man was admitted to the medical service of the West Haven Veterans Administration Hospital on July 9, 1957, with complaints of bone pain, nausea, and vomiting. He had been transferred from another hospital, where he had been admitted on June 30, 1957, for evaluation of low back pain and proteinuria.

Results of a physical examination at that time, including a blood pressure of 134/80 mm. Hg, were entirely normal. Laboratory data showed a hemoglobin level of 9.6 Gm. % and a sedimentation rate of 28 mm. per hour (Wintrobe). The white blood cell and differential counts were within normal limits. Urine analyses were entirely normal except for proteinuria. The serologic test for syphilis was nonreactive. The blood urea nitrogen level was 11 mg. % and the creatinine level 1.3 mg. %. The total serum protein level was 10.2 Gm. %, with an albumin level of 2.6 and a globulin level of 7.6 Gm. %. Serum electrolyte and liver function determinations were normal except for a thymol turbidity of 15 units. Roentgenograms of the spine showed generalized demineralization, with multiple small osteolytic lesions of the vertebral bodies and ribs. Plasma cell myeloma was suspected.

On July 3, 1957, intravenous pyelograms with sodium acetrizoate (Urokon sodium) were performed. These showed normal excretion of the contrast medium and normal renal structure. This test had been preceded by the administration of a cathartic and of a saline enema. Nausea and vomiting developed on the day after pyelography, and parenterally given fluids were required to maintain hydration. Unfortunately, observations of urine output were not recorded during the next few days. The diagnosis of plasma cell myeloma was established thereafter on the basis of Bence Jones proteinuria and a bone marrow aspiration.

On the seventh day after pyelography the patient was transferred to this hospital. Physical examination revealed a blood pressure of 150/100 mm. Hg, a pulse rate of 120 beats per minute, a respiration rate of 20 per minute, and a temperature of 100 F (37.8 C). Except for conjunctival pallor, crusted blood in both external nares, and vertebral tenderness, the examination was negative.

The patient's blood urea nitrogen level on admission was 100 mg. % and the creatinine level 12.8 mg.%. Laboratory evaluation otherwise confirmed the findings recorded at the first hospital. In addition, the urine showed 4+ proteinuria, a specific gravity of 1.012, and a few red blood cells and white blood cells in the sediment. Phenolsulfonphthalein excretion was 15% in two hours. An abnormal gamma globulin peak was observed in the serum and a slow beta peak in the urine by electrophoresis. Blood studies were performed with great difficulty due to the presence in the blood of cryoglobulin.

The patient's course was one of progressive renal failure complicated by recurrent epistaxes, nausea, and vomiting. Urine output on the day after admission was 500 cc. but rose to more than a liter each day. Despite treatment with urethan, radiation, and adrenal steroids and transfusions the patient died in uremia almost three months after pyelography.

Autopsy showed large kidneys (350 Gm.), which appeared normal except for purplish discoloration of the cortex. Microscopically the glomeruli appeared normal. The tubules were, in general, markedly dilated and filled, particularly in the proximal portions, with deeply eosinophilic inspissated casts in varying stages of evolution. The tubular epithelium was intact in some areas and sloughed in others. There was no reaction to some casts, but others were invested by flattened

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cells or by multinucleated giant cells (see figure). Occasional cast material was deposited on a giant cell surrounding an earlier cast. The interstitial tissue was relatively free of cellular exudate. Several tubules contained rounded crystals which polarized light. The calyceal epithelium was intact, but the subcalyceal tissue was edematous and hemorrhagic. No vasculitis was present.

Comment

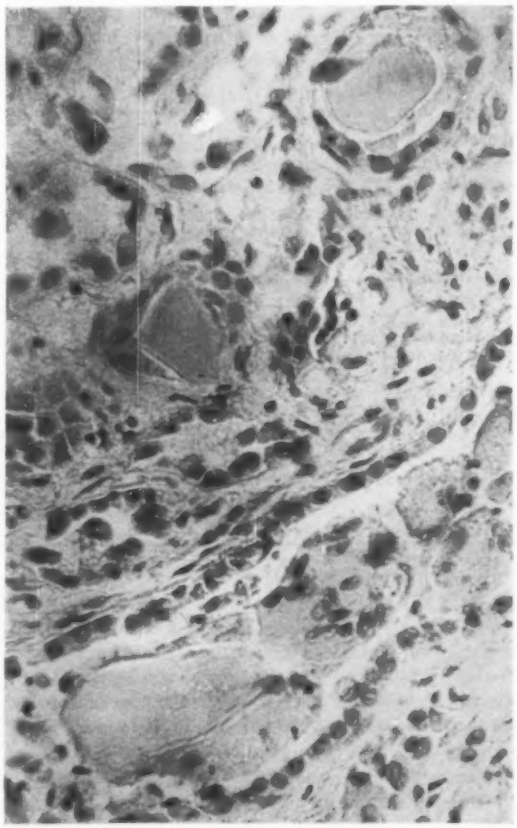
Fatal complications of intravenous pyelography are extremely rare. Pendergrass and co-workers [4] reported only 31 deaths in more than 3,800,000 intravenous pyelographic examinations. Twenty-five of these deaths occurred immediately after intravenous injection of the contrast substance and were preceded by evidences of anaphylactoid shock, cardiac arrest, or symptoms of drug sensitivity. Three of these patients died in uremia within a few days of the examination, but the clinical data in these three cases are too scant to permit careful evaluation.

None of the five patients with plasma cell myeloma in whom pyelography is reported to have precipitated acute renal failure exhibited any of the features of drug allergy to the three different iodinated contrast mediums employed. Neither convulsions nor shock occurred during or after the procedures. Anuria or oliguria was noted shortly after completion of the procedure, and clinical and laboratory confirmation of acute renal failure was quickly obtained. Three of these patients died in acute renal failure 8, 11, and 40 days after the onset of anuria. Although two of them survived the oliguric phase, death in uremia followed within a few months. Each of the authors firmly believed that the pyelography had precipitated the sudden renal decompensation.

Renal disease in plasma cell myeloma occurs in more than half of the patients.[5] Characteristically, chronic progressive uremia develops in the absence of hypertension, hematuria, edema, or retinal abnormalities, and occasionally the presenting complaints are the symptoms of far advanced renal decompensation. Kolff [6] has stated that patients with plasma cell myeloma who have ". . . slightly impaired renal function, for reasons unknown, suddenly may go into (recoverable) acute anuria." In our experience this phenomenon is quite unusual.

Much has been written about the pathogenesis of myelomatous renal disease, but few authors have disagreed with Bell's hypothesis.[7] He stated, in his excellent paper on this subject, that the process was essentially a mechanical one, with the deposition of Bence Jones protein casts causing blockage of the renal tubules and subsequent atrophy of the involved nephrons. Oliver [8] has supported this "stopped pipes" theory by his morphologic demonstrations. Forbus and his co-workers [9] emphasized the presence of foreign body giant cell reaction induced by the abnormal protein coagulum. Renal biopsies have recently shown that these microscopic changes, which are not always associated with Bence Jones proteinuria, may occur during life [10] and are not merely terminal changes as has been suggested.[11]

Clinical and laboratory aspects of the five cases of pyelography-induced anuria are summarized in the table. It is interesting to note that the diagnosis of plasma cell myeloma had not been established in any of these patients at the time pyelography was performed, although it was suspected in several. Renal function was significantly impaired in one patient but seemed normal or nearly so in the others on the basis of concentrating ability, blood urea nitrogen level, urea clearance, and normal pyelographic visualization. With one exception these patients were normotensive.



Dilated tubes, many of which are filled with eosinophilic homogeneous casts. Large multinucleated giant cell is in lower right.

Abnormal urinary proteins were present in the four cases in which it was sought. The electrophoretic patterns of the serum proteins varied, showing a normal pattern in one, an "M" peak in one, and a gamma peak in a third. Serum calcium determinations were normal in the two cases in which they were reported. Roentgenograms showed characteristic osteolytic lesions in four patients.

The pathological findings in these patients at autopsy showed little or no involvement of the glomeruli. There were varying degrees of homogeneous, eosinophilic, proteinaceous casts in the distal convoluted and collecting tubules. In one of these patients autopsy on the ninth day of oliguria revealed only a few such casts. Some dilatation of the tubules and atrophy of the tubular epithelium was present. There was moderate infiltration of the interstitial cells with lymphocytes, plasma cells, and macrophages. There was no evidence of vascular reactions or other types of renal disease.

How can the pathogenesis of such lesions be explained? Although simple dehydration with the intratubular precipitation of urinary protein is not an entirely satisfactory explanation, it appears to fit the clinical and pathological features of the syndrome more closely than any other apparent explanation.

Intravenous pyelography in a number of ways may set the stage for this intrarenal protein coagulation. Caster-oil cathartics and enemas are routinely used to permit optimal visualization of the renal structures. Dehydration produced in this manner may be compounded by the restriction of fluids designed to depress urine flow. Abdominal compression, which is used to increase the concentration of the excretory dye, has been shown by Bradley and Bradley [12] to reduce renal blood flow and to produce a scant concentrated urine. It is interesting to note that Addis [13] has reported the onset of anuria in a patient with plasma cell myeloma after the development of dehydration induced by castor oil. Similarly, Thaysen [14] has mentioned a patient with plasma cell myeloma in whom acute renal failure followed nausea and vomiting.

It seems likely that saturation of tubular urine containing a large amount of an abnormal easily precipitable protein may satisfactorily explain the intratubular precipitation of this material. The sudden blockage of a large percentage of the renal tubules may result in sudden suppression of urine flow. Although the effect of the pyelographic contrast substance itself in vivo is unknown, it does not cause precipitation of Bence Jones proteinuria in vitro. The degree of acidity, the concentration of urinary electrolytes and urea, and other unknown factors are difficult to evaluate. Urinary acidity was not altered, however, after intravenous pyelography with sodium acetrizoate or diatrizoate (Hypaque) sodium.[15]

Even in plasma cell myeloma the precipitation of acute renal failure by intravenous pyelography is an unusual event. There were no reactions, either immediate or delayed, in the 11 myelomatous patients in whom intravenous pyelograms were performed at these hospitals.

The fact that acute renal failure occurred in each of these patients prior to the establishment of the diagnosis of plasma cell myeloma suggests that all patients with unexplained proteinuria should be evaluated for this disease prior to the performance of intravenous pyelography. Of perhaps greater clinical significance is the implication that acute renal failure in plasma cell myeloma may be precipitated by dehydration. It follows that less severe degrees of renal disease in this disease may be initiated or aggravated by dehydration. It would appear wise to assure maximal urinary output in all patients with this disease, particularly those with proteinuria, as a means of preventing or minimizing myelomatous renal disease.

Clinical and Laboratory Aspects of Five Cases of Pyelography-Induced Anuria

Author	Age, Yr.	Sex	Complaint	Blood Urea Nitrogen Level, Mg./100 Ml.	Proteinuria, Gm./100 Ml.	Bence Jones Protein	Specific Gravity	Contrast Substance	Visualization	Outcome	Remarks
Bartels and others[1]...	69	M	Fatigue, full flank	81	1.0	...	...	Iodopyracet (Diodone)	Poor	Death	Death 40th day; autopsy: cast-plugged tubules
Myhre and others[2a]...	70	M	Back pain	30	1.8	+	1.029	Diodonediaeth-anolaminum (Nycotrast)	Good	Death	Death 11th day; no autopsy
Myhre and others[2a]...	42	M	Ulcer	36	1.2	+	1.032	Diodonediaeth-anolaminum	Good	Recovery	Died in uremia 8 mo. later; autopsy: cast-plugged tubules
Killmann and others[2b]	36	M	Back pain	...	10-15 per day	+*	1.027	Iodopyracet	Good	Death	Death 9th day; autopsy: few tubular casts
Perillie and Conn.....	34	M	Back pain	11	possible	+	1.026	Sodium acetrizoate	Good	Recovery	Death 3 mo. later; autopsy: cast-plugged tubules

* Abnormal protein.

Summary

Acute renal failure may develop immediately after intravenous pyelography in patients with plasma cell (multiple) myeloma. At autopsy these patients, in whom abnormal proteinuria had been demonstrated, showed plugging of the renal tubule by coagulated protein casts. We postulate that in the presence of Bence Jones proteinuria the dehydration produced by fasting and purging and the increased concentration of urine caused by abdominal compression may combine to cause precipitation of the urinary protein within the renal tubules. This internal obstructive uropathy may be prevented by avoiding intravenous pyelography in patients with plasma cell myeloma or proteinuria of undetermined cause. If acute renal failure is precipitated in these patients by simple dehydration, it is important to assure adequate fluid intake at all times.

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The authors wish to thank Dr. R. Yesner for his interpretation of the pathological material.

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SIMPLE METHOD FOR DETECTION OF PHENYLKETONURIA

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Phenylketonuria is a disease characterized by the inability to metabolize an essential amino acid, phenylalanine, which is present in all proteins in average concentration of 4%. Phenylalanine, phenylpyruvic acid, ortho-hydroxyphenylacetic acid, and other unusual metabolites are excreted in the urine. This biochemical abnormality ordinarily leads to severe mental defect. Excellent reviews [1] have appeared recently.

Results have been reported [2] indicating that treatment with diets low in phenylalanine has been successful in allowing normal physical and mental growth. It appears, therefore, increasingly important to detect phenylketonuria in early infancy. A routine diaper test [3] has been in use in southern California for some time.

Collection of urine specimens from infants is always difficult. Urine containing phenylpyruvic acid that has been dried on filter paper gives a positive test with ferric chloride reagent even after several months. We have devised a simple method for collection of urine on filter paper which can then be tested for the presence of phenylpyruvic acid. Mothers of newborn infants are given several pieces of absorbent paper and instructions to place the paper in their baby's diaper to become wet. The paper is taken out, dried, and mailed to us for testing. The test should be performed at 4 to 6 weeks of age, since phenylpyruvic acid may not be present in urine of infants with phenylketonuria until two to three weeks after birth.

When each paper containing dried urine is received, it is tested with a small drop of 10% ferric chloride solution. A urine specimen which contains phenylpyruvic acid turns green immediately. The green color fades after five minutes. The aromatic odor resulting from phenylpyruvic acid that has been dried on paper is very striking.

In any instance in which the ferric chloride test is doubtful or positive, the urine is examined further for the presence of ortho-hydroxyphenylacetic acid. This substance is excreted in large amounts in urine of persons with phenylketonuria and is as characteristic of the disease as is phenylpyruvic acid, though not so easily detected. This is done very simply by cutting out a 0.5-in. square from the paper containing the dried urine. This small paper is stapled 1 in. from the bottom of a piece of chromatographic filter paper 7 in. in height. The chromatogram is formed into a cylinder with the

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urine paper on the inside to insure contact between the two pieces and placed in a solvent mixture containing isopropanol-ammonia-water (8:1:1) for six hours, or until the solvent mixture reaches the top. Then the chromatogram is removed, dried, and sprayed with a mixture of diazotized sulfanilic acid and sodium carbonate.

In phenylketonuric urine an orange spot of ortho-hydroxyphenylacetic acid appears approximately 4 in. above the position where the urine paper is stapled to the chromatogram. In normal urine no spot is seen. Aspirin and acetoacetic acid, which may interfere with use of the ferric chloride test on the original urine paper, do not interfere in the chromatographic detection of ortho-hydroxyphenylacetic acid.

This simple technique has been used to test urine of infants in the Cincinnati area. It was also used to test urine of a child with phenylketonuria during treatment with a phenylalanine-low diet. Dried urine papers were mailed to us for several days prior to and after institution of treatment. The papers collected before and during the first four days after the beginning of the diet had a strong odor of phenylpyruvic acid and gave positive tests with use of ferric chloride reagent. When small portions were excised and chromatograms prepared as described above, ortho-hydroxyphenylacetic acid was found. On subsequent days the papers containing urine gave no reaction with ferric chloride, but ortho-hydroxyphenylacetic acid was detected until the sixth day after treatment was begun. The concentration of phenylalanine in serum of the phenylketonuric child was 22 mg. per 100 cc. prior to treatment and 2.5 mg. per 100 cc. 10 days afterward.

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COUNCIL ON DRUGS

Report to the Council

The Council has authorized publication of the following report.

H. D. Kautz, M.D., *Secretary.*

FACTORS INFLUENCING CLINICAL EVALUATION OF DRUGS

WITH SPECIAL REFERENCE TO THE DOUBLE-BLIND TECHNIQUE

Walter Modell, M.D.
and
Raymond W. Houde, M.D., New York

The fallibility of enthusiastic claims for new drugs makes it desirable to recognize those investigations which are likely to yield substantial data and to lead to interpretations that can be ascribed to pharmacodynamic effects rather than to wish, prejudice, coincidence, accident, or error. Some new drugs, despite statistical validations in reports of their efficacy and safety, do not survive the test of actual use or, even worse, have serious repercussions. The undesirable effects of such drugs employed therapeutically already have achieved alarming proportions, being observed in approximately 5% of 1,000 consecutive recent admissions to a major hospital in the city of New York.[1] This situation may become even worse if the present rate of development of new drugs continues (about 550 new preparations each year or more than one every day [2]) and if the medical profession continues to be misled by poorly conducted or inadequate evaluations of new drugs.

Criteria for distinguishing substantial studies from the unsubstantial must, therefore, be established in order to deal with the enormous number of reports on the large number of entirely new pharmacologically active drugs introduced in the market each year. Many methods for the evaluation of drugs have been designed. Of all the devices to insure valid data, none seems to have attracted

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so much attention and to have evoked so much controversy as the so-called double-blind technique. So much has been said and written about the technique that it does not need detailed description here. Briefly, it is a control device to prevent bias from influencing results. On the one hand, it rules out the effects of the hopes and anxieties of the patient by giving both the drug under investigation and a placebo of identical appearance in such a way that the subject (the first "blind" man) does not know which he is receiving. On the other hand, it also rules out the influence of preconceived hopes of, and unconscious communication by, the investigator or observer by keeping him (the second "blind" man) ignorant of whether he is prescribing a placebo or an active drug.[3] At the same time, the technique provides another control, a means of comparison with the magnitude of placebo effects.

The device is both philosophically and practically sound. In addition, perhaps because of the widespread attention it has attracted or the magic quality it appears to have, the double-blind technique has been assumed to be a complete method of drug evaluation in itself. Indeed, it is often called the double-blind test. Many seem to believe that all that is necessary for a good clinical study is to use it, and, since it is relatively easy to apply, many are exploiting it in just this way. A large number of papers emphasize in the very title that this type of control was used,[4] not only as if the use of a control in a clinical experiment were worthy of special mention, but also as if to warn the reader in advance that a special type of insurance had been taken out to guarantee that the results about to be recounted were beyond reproach.

If it were a fact that merely the use of the double-blind technique guaranteed the reliability of the data and the validity of the conclusions drawn from these data, the answer to the problem of drug evaluation would be simple indeed. But there are, in fact, a large number of studies in which the double-blind technique has been used, wherein the conclusions drawn from the data are open to question. In addition, the conclusions of some investigators are clearly at variance with well-established and universally accepted clinical and pharmacological observations. For example, the conclusions of one study imply that glyceryl trinitrate (nitroglycerin) has no clinical effects distinguishable from those of a placebo in patients with the anginal syndrome.[5]

That the double-blind technique does not rule out incompatible interpretations may be demonstrated by our own experiences in evaluating the analgesic action of aspirin. One of us (W. M.), using the double-blind technique, gave 25 patients with arthralgic pain aspirin in doses of 250 mg., 500 mg., and 1.0 Gm., three times a day. At the end of a two-week period, on each dosage, each patient turned in a report card indicating his own reaction to the medication during the period. This is a fairly common design for clinical evaluations in outpatients.

Statistical analysis of the data indicated that the patients were unable to distinguish between any of the doses of aspirin and the placebo (see table). Had five times as many observations been made, additional data of this sort would not have revealed a significant difference between reactions to aspirin and to the placebo. The results are inconsistent and without significant difference in any category for any treatment. These statistical analyses of the data could have been interpreted to prove that there is, in fact, no difference between the analgesic actions of aspirin and those of a placebo.

The double-blind technique was also applied by one of us (R. W. H.) to a different experimental design to evaluate aspirin, in which a bedside observer recorded the analgesic action as it developed.[6] Unlike the patients in the first study, who kept their own report cards and were seen only at infrequent intervals, the patients in the second study, who communicated immediately with an observer ("blind"), distinguished between the analgesic action of doses of aspirin and placebo and discriminated between graded doses of aspirin (fig. 1 and 2). These results were also highly significant statistically.

Response of Twenty-five Patients to Treatment with Aspirin and Placebo

Condition	Placebo	Aspirin		
		250 Mg.	500 Mg.	1 Gm.
Improvement, %	38	50	38	44
No change, %	38	19	38	31
Worse, %	25	31	25	25

How are we to resolve such discrepant results? No simple device such as the double-blind technique will correct astigmatism or myopia in the examination of drugs. The blind will not lead the blind to a valid conclusion unless the method somehow also provides vision.

It is our contention that the evaluation of the effects of drugs in man is by no means simpler, nor does it permit a less rigorous method of examination, than the formal experiment with the laboratory animal. The methodology has a strict discipline of its own. Clinical evaluations must deal appropriately with a complex of forces which affect patient reaction, or erroneous impressions of the virtues of new drugs will continue to be a source of confusion to the physician, of dangerous or ineffectual therapy for the patient, and of eventual economic loss to the manufacturer.

It is the purpose of this report to examine the factors which determine the sensitivity and the reliability of methods of drug evaluation in man and to consider the position of the double-blind technique in the schema. These factors have been analyzed elsewhere with, perhaps, less emphasis on the relative importance of double-blindness.[7] A

variety of terms (response variables, primary stimulus variables, intervening stimulus variables[8]) have been used to describe these factors. To keep from beclouding the issues with yet more and, perhaps, equally unsatisfactory terminology, instead of ascribing terms to these factors, we shall describe them as stated in the following section.

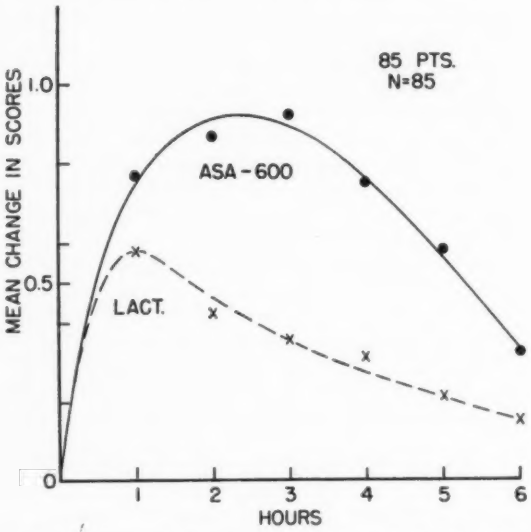

Fig. 1.—Time-effect curves for aspirin and placebo. Plot of mean hourly pain-relief scores, obtained in 85 patients with pain due to cancer, after oral administration of 600 mg. of aspirin and a lactose placebo. In these studies patients reported their pain to an observer in terms of "none," "slight," "moderate," and "severe." These categories were given numerical values, and pain relief was assessed as changes in score after administration of drug as compared with premedication score.

Forces Which Influence Data in Clinical Evaluations

The forces which may influence data in clinical evaluations, especially when subjective responses are involved, may be enumerated as follows: (1) pharmacodynamic actions; (2) dosage; (3) choice of subject; (4) use of controls; (5) collection of data; (6) sensitivity of the method; (7) placebo actions; (8) bias; and (9) forces extraneous to the experiment.

Pharmacodynamic Actions.—Pharmacodynamic actions present the least difficulty in their evaluation when objective measurement is feasible. When pharmacodynamic actions are potent, characteristic, and reproducible and are not seriously compromised by psychic forces, evaluation is thus relatively simple. For example, the action of a mercurial diuretic lends itself to precise, dependable, and relatively simple measurement, because it can be expressed in terms of the several pounds of fluid that a patient with congestive heart failure may lose overnight.[9]

Other drug actions, especially those which must be evaluated in terms of subjective response, are far more difficult to assess.[10] The influence of moderately potent analgesic agents on pain is difficult to evaluate, because pain is so susceptible to suggestion.[11] The hypotensive action of drugs is elusive because of the spontaneous tendency to wide variation of blood pressure in patients with hypertension, as well as because of the influence of immediate circumstance, tension, position, and rest on blood pressure.[12] Each drug effect, therefore, requires careful consideration in relation to the method used to measure it.

Dosage.—When the dosage is too low, regardless of the pharmacological actions or potency of a drug, clinical evaluation will not reveal a difference between placebo and drug. However, when too large a dose is used, therapeutic value may be obscured by toxic effects. Neither token nor toxic doses are useful in drug evaluations. Dosage must be carefully chosen. A dose should usually be used which, by preliminary experiment, is shown to lie in the sensitive portion of the dosage-response curve of the drug in question, although there are special

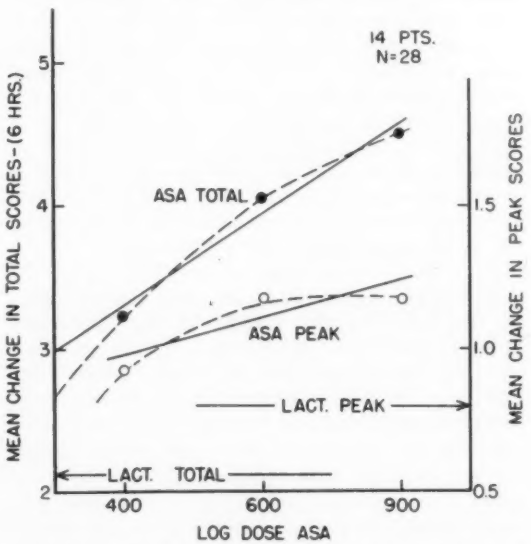

Fig. 2.—Dose-effect curves for aspirin. Mean peak relief scores (*right*) and mean total relief scores for six hours (*left*) are plotted against doses on a log scale. These were doses of 400, 600, and 900 mg. of aspirin and a placebo administered in a random order. Pain relief was assessed as in figure 1.

situations and designs in which a threshold or a ceiling dose may be more suitable. As a matter of fact, the use of a series of graded doses provides a much more substantial basis for drug evaluation than the use of a single dose, no matter how well chosen, since it also serves as a built-in measure of

the sensitivity of the method and the discriminating powers of the study population—an internal control, so to speak.

Choice of Subject.—The choice of the appropriate subject is a critical matter in the design of clinical investigations. Just as some species of animals are more suitable than others for particular experiments in the laboratory, so some subjects are more appropriate than others for the clinical investigation of particular actions or effects. The argument that the patient for whom the drug is ultimately intended represents the best subject for the evaluation of a particular drug is a truism with serious limitations. Often he is the only possible subject, but there are also situations in which he may be unsuitable.[13] The choice of the subject, insofar as there may be a choice, depends more on the goals or aims of the investigation than on the disease for which the particular drug may be used if it is found to be active in man. The choice really rests on the purpose of the investigation, whether it is (1) to predict the value of a drug in the treatment of a particular disease, i. e., a therapeutic evaluation, or (2) to define the action of a drug in man, i. e., a pharmacological examination.

That there are two fundamentally different goals in clinical investigation is of obvious importance to those who design the investigations, but the realization of this distinction is of equal importance to those who read and interpret the reports of the investigation. It is too often assumed by readers, and even implied by authors, that the results of one type of investigation invariably apply to the other.

Some amplification may, therefore, be justified. The investigation of pharmacological actions of a drug in man is a necessary preliminary to its therapeutic evaluation. Although the results of the former may have implications of utility in particular disease states which are borne out by subsequent experience, sometimes the therapeutic evaluation fails to confirm the suggestive pharmacological findings. Only the therapeutic evaluation of the drug in the patient with the disease can provide the conclusive data of its value in the disease. The investigation of the therapeutic potential of drugs, therefore, cannot be carried out on any subjects but those with the particular condition for which it is proposed. If the evaluation is to have predictive significance, the group of patients must represent a fair (or random) sample of the patients who suffer from the disease.

The problem in the choice of subjects is a fundamentally different one, however, when the aim of the investigation is to explore or define the pharmacodynamic actions of a drug in man. Here the complex of unknown factors which influence the functional state of man may obscure the phenomena which are to be examined, measured, or evaluated. It is appropriate to avoid, eliminate, or reduce these unknown factors in the pharmacodynamic evaluation, since here the purpose is to define, within practical limits, fairly isolated drug actions. However, since these factors comprise everpresent issues in treatment, they must be accepted in the therapeutic evaluation of drugs.

Thus, while the utility of a diuretic in the treatment of congestive failure can be predicted only after an experience with a representative sample of patients with congestive failure, the effects of diuretics on particular electrolytes or in the influence of electrolyte load on diuretic action can be much better explored in healthy subjects. This is not to say that the healthy or normal subject is always the best for the pharmacological investigation. There are situations, e. g., that of the drug for cardiac arrhythmia, which demand the patient for the pharmacological as well as the therapeutic investigation. There are also situations in which there appears to be a choice, depending largely on the experimental approach, convenience, and availability of subject material. For example, drugs used in motion sickness can be investigated in voyagers with motion sickness aboard ship, and they can be investigated in healthy subjects with vertigo induced by the Barany test. Additional examples will not serve to clarify further the idea that, in the exploration of pharmacodynamic action of drugs in man, there are situations which are highly specific and in which only the patient with the disease for which the drug is intended can be the subject, that there are drugs for which both the patient and the normal man are suitable subjects and for which the choice may be based on convenience alone, and, finally, that there are situations in which the normal man appears to be clearly the more desirable subject than the patient.

The aforementioned considerations determine the type of subject essential for the clinical evaluation. Provided that they do not conflict with these, there are some general considerations which must also be taken into account. Subjects must be selected in a manner which insures the ability of the group, as a whole, to discriminate between "active" and "inert" agents. If this basic requirement for a useful method of drug evaluation is satisfied, unless there is a special reason for doing otherwise (e. g., the examination of a drug to be used only in infants), the attempt should be made to have the composition of the group as representative as possible of the general population.

To attain this objective, when extremely large numbers do not provide it by chance, some selection may be justified or even essential. Subjects likely to give misleading results should not overwhelm the group. The composition of the group with respect to age and sex should not be unusual. The potentially high side-effect liability of patients with renal disease and of the elderly, in general, must be considered. That dosage response in the very young sometimes differs significantly from that

of adults must also be taken into account. Exceedingly phlegmatic subjects render the method less sensitive, just as highly neurotic and highly suggestible patients tend to compromise the sensitivity of the method through wide swings of mood and attitude as well as of placebo reaction (both positive and negative). The number of these subjects, therefore, should not be excessive.[14]

Knowledge of participation in an experiment, in the exploration of a new drug, or in any kind of a special examination places special psychic pressure on the patient and tends to make him act in something other than his usual manner—to be overly introspective, to help the investigator in some cases, and to react with fear in others. Some patients will tolerate discomforts with less difficulty when they know they are participating in an investigation; on the other hand, some may resent it.[15] But, however they react, this kind of information alters the subject and, thereby, adds a distracting influence to patient reaction with which the method of evaluation has to deal.

The acquisition of subjects for studies is an important practical problem, often a serious one. It would appear not only proper, but also legally desirable, to call on volunteers. However, the volunteer may present a problem in clinical evaluations; the highly cooperative and willing volunteer may provide a highly personal set of psychological problems which disturb the study. In an interesting analysis of this problem by Lasagna,[16] it has been shown that the volunteer is by no means representative of the average subject.

Use of Controls.—No experiment in any discipline can be pursued without controls. As a matter of fact, even those experiments which the experimenters, themselves, presume are without controls are, nevertheless, controlled. The control is a basis of comparison, and, thus, there is a control inherent in every judgment on a drug. The only important question about the control is, therefore, not whether it is present, but whether it is sound as a basis for the comparison on which the judgment is based.

It is tempting to use an easy way out, to use what has been called the historical control,[17] i. e., a recounting of previous or personal experience or recorded experience as a basis of comparison. Often, this is not recognized as a control—and with good reason, for it is a treacherous control. No method of drug examination is more likely to lead to erroneous conclusions, because it has none of the safeguards provided by other controls, the elimination of placebo effects and of bias. It also fails utterly to provide comparable bases for examinations of control and experimental groups. Only in the case of the disease in which an irrevocable or unquestionable characteristic course has been established, and particularly when the disease is rare, is the historical control justified.

The classic experiment uses separate groups for control and treatment, but this provides significant data useful for statistical validation only when the groups are extremely large or extraordinarily homogeneous. In man, this poses a serious practical problem. Since sets of identical twins (the equivalent of litter mates in the laboratory) are too rare to be hoped for, proper and careful matching (often an insuperable task) of control and experimental groups is essential. When the number of subjects is very large and when alternate patients are put in each group, chance alone will insure a proper balance. However, even when large numbers are available, the proper segregation of groups of patients is often a serious and difficult matter.

An alternate method, which is acceptable, is to give each patient the medicaments and the placebo serially, so that each subject serves as his own control. Since here the control and the experimental subject are identical, there is a valid basis for comparison. For such a comparison, the subject must be available for observation for a relatively longer period of time than that required in the first plan. In clinical evaluations, the second plan usually is more satisfactory than the first because smaller numbers are needed; hence, the study can be conducted in less time and with less cost. On the other hand, when the subjects have progressive disease, it may be inappropriate to compare effects at two stages of the disease. If this is the case, only separate control and treated groups are acceptable.

Collection of Data.—When objective measurement is possible and differences can be expected to be large, there is relatively little difficulty in collecting data. However, when the patient must communicate his experience, it is quite another matter. There are few experimental procedures in which so vital a part of an experiment as the collection, storage, and interpretation of observations is left in the hands of an interested, biased, and untrained assistant as that in which the subject himself is asked to report on his experiences after a period of medication. How can he help having his total recollection colored more by recent events than by those farther back in his memory—what happened two days or two weeks ago or even two hours before questioning—when, perhaps, he was annoyed by some action of the receptionist in the clinic.

The daily report-card system was designed to deal with this defect in the interval-report system.[18] When these records are kept by the patient himself, the improvement in methodology is more theoretical than actual. At the very best, it substitutes 24-hour recall for, say, two-week recall, but it still has the same fundamental deficiency. In practice, it is often no better than the longer interval system. We have observed patients fill out their "daily" report cards on their return to the outpatient department after an interval of as much as two weeks,

immediately before being asked to turn them in. In any event, while it is obvious that it provides more data, the "daily" report-card system has not been subjected to an analysis which indicates that it also provides better data than the longer interval-report system. Other improvements have been suggested, such as having the subject mail a post card each night or phone a report each night,[19] but each of these compromises still leaves much of the data subject to the caprice of the patient for too long.

In general, any device which leaves the discrimination of reaction to drugs at the mercy of patient recall provides the setting for outside influence and tampering with the data. Every effort should be made to minimize the period between the experience with the drug and the recording of the data; the data should be taken out of the patient's possession as soon as possible and, thereby, kept as nearly as possible in its original form.

Sensitivity of the Method.—As in methods for chemical analysis, every method of drug evaluation requires a demonstration that its sensitivity is appropriate to the problem. A scale of sensitivity should indicate, first, the ability of the method to detect the drug action and, second, its capacity to discriminate increments in effects. Without the first, a negative answer cannot be defended, and without the second, a positive answer has no quantitative meaning.

A method of clinical evaluation can defend a negative answer only if it demonstrates at the same time that it appreciates the effects of a standard similar drug. The ability of a method to discriminate increments in effects can be indicated by its capacity for dosage response when a series of doses of the standard or experimental drug is used. Such a scale of sensitivity gives positive results a quantitative meaning.

The internal control just described is not only essential to establish the propriety as well as the sensitivity of the method as such, but it may not be eliminated in further clinical evaluations with the same method (as can be done with impunity in some other disciplines; e. g., methods of chemical analyses can usually be repeated many times without rechecking accuracy and sensitivity). The need for a continuing test of sensitivity comes not from instability of the method but from variations in the population of subjects, which at one time or another may make them more or less able to discriminate between "active" and "inert" agents.

Placebo Actions.—The term "placebo" has taken on many implications not within its original meaning. As the word is presently used in clinical evaluations, it includes a large series of visceral, somatic, and psychic responses resulting from the symbolic implications of the physician, his ministrations, and his medicaments.[20] Such actions are inherent in all medicaments, whether they are effective, excessive, hazardous, impotent, inert, unpleasant, inadequate, or inappropriate, as long as the medicament is prescribed by the physician for his patient.[21] To be certain that these are not the only effects due to drugs under examination, it is essential to have a basis of comparison of drug effect with "pure" placebo effect. To provide this, one must also give an inert medicament which is otherwise identical with the drug under examination.

It has been suggested by Gaddum [22] that for philological reasons such an inert medicament be called "dummy" rather than "placebo." But, dummy or placebo, an inert control must be given in all studies to distinguish the difference between the effects of the act of drug administration and the pharmacodynamic effects of the medicament itself. This measure provides the only defense against the criticism that results reported are due to placebo actions.

Bias.—The person of the physician and his medications have been shown to be symbolic forces of considerable potency in the relief of symptoms, the so-called placebo action. In addition, the hopes of the patient and the therapist, as well as any bias either may have with respect to treatment or experiment, also influence response to treatment. These must be reckoned with in all clinical evaluations.

The patient may want to get better to the extent that he is inclined to see good effects after administration of any new medicament. On the other hand, he may find compensations in his illness and wish to preserve his complaints and hence be inclined to see negative pharmacodynamic effects. "Toxic" effects from placebo are described in the literature,[23] the so-called negative placebo action.

The physician's knowledge of the nature of the medicament is exceedingly important, for, regardless of how much he tries, if he knows the identity of the medicament, he may well communicate this information to the patient. The importance of this unconscious (or conscious) communication has been proved by a study by Batterman and Grossman,[24] in which no difference between aspirin and placebo was detected by the patient unless the physician knew whether he was giving one or the other.

The standard and well-documented procedure is not only to use both placebo and drug which are identical in appearance but also to keep both physician and patient ignorant of what is in use at the time of questioning, examination, and prescription, i. e., the double-blind technique.[21a] Both placebo and drug not only should look alike but also should be prescribed and administered alike in order to prevent bias of both patient and physician from producing apparent drug actions. To be a real control, the placebo should also closely imitate the test-drug in any incidental effects such as taste, or

other action perceivable by the patient or physician, but it should be independent of the action under question in the test.

This device, however, does not eliminate bias as an element in the method; it merely attempts to deal with it by equalizing its effects, so that unequally distributed bias alone will not fashion the apparently decisive evidence. At this point, it seems appropriate to emphasize that the double-blind technique is merely a control device; for that reason, we shall designate it the double-blind control.

Forces Extraneous to the Experiment.—The forces extraneous to the experiment include all external influences which affect the state of the subject's physical, functional, and psychic state—a change in the course of the patient's illness, a happy experience, a family quarrel, a change in the weather, or a turn of world affairs. To some extent, these factors may be reduced by removing the patient to the hospital, where they tend to remain relatively constant, compared with the relatively labile scene in the usual home under the best of circumstances. On the other hand, some patients may find the hospital environment disturbing rather than protective, and for them this change makes matters worse. The decision has to be made on an individual basis.

The tendency of extraneous forces to influence results can also be dealt with by prescribing medicament and placebo by a scheme of random distribution. Once again it may be pointed out that this device, randomization, does not eliminate disturbing external forces, but, by spreading the disturbing forces equally, in this way they favor neither drug nor placebo response.

Significance of the Data

It is usually good practice to plan the collection of data in such a way as to simplify subsequent statistical analysis, for, however the experiment is designed, the data should eventually be subjected to statistical analysis, if the significance of differences that are indicated by the data is to be established.[25] This is not to say that the mere statement of statistical significance insures correctness of interpretation. If the data are inappropriate or improperly collected, despite their statistical significance, their interpretation may be erroneous, as illustrated by the results of the study with aspirin cited previously.

It is well to remember that statistics prove nothing—they are merely a device for establishing the betting odds on the reproducibility of the results by mere chance. Statistical prognostication is always based on the assumption that the data used were worthy of collection; statistical analysis of poor data is tantamount to attempting to make a silk purse out of a sow's ear.

Interpretation of the Data

Of the several factors which enter into the design of a proper clinical evaluation, the current literature has placed overwhelming emphasis on one item, the double-blind technique, and relatively little on the others. Unless all factors are considered and afforded their proper importance in the design of clinical evaluations, improper and erroneous conclusions will be drawn from data that are supplied by studies which use the double-blind control just as well as from those which do not.

It is convenient to consider the design of a study for clinical evaluation in terms of a balance which is used to weigh the evidence for or against a particular pharmacodynamic or therapeutic effect of a drug as compared with chance occurrence. Which way the balance swings, i. e., whether drug action is favored or not, depends, of course, on the relative weight of the evidence in one or the other pan. Whether the swing is meaningful or misleading depends on whether the weight which swings it is due to a specific action of the drug or to any of a myriad of forces which influence man's behavior and his mental, physical, and visceral activity. When such a model is used, one way to prevent swings of the balance by factors other than the intrinsic pharmacodynamic action of the drug itself is to accept and spread their influence equally on both sides of the balance, thereby causing no disturbance in balance by their weight. This is precisely what is attempted by the control devices of double-blindness and randomization; they merely prevent chance and erroneous swings of the balance.

What is not often taken into account in clinical evaluations is how much weight is necessary to make the balance swing at all, that is, the basic sensitivity of the method. Whatever the original sensitivity, consider what is done with it in the usual design for clinical evaluation. Consider that such a balance is not empty at the outset of the evaluation, merely in balance; on both sides of the balance one places equally placebo action of drugs, bias, and influence of diverse extraneous factors, such as weather, political events, family stresses, and a number of other vagaries of human experience that tend to mold or alter man's functional state and his response to drugs. It is to be emphasized that these are not removed as interferences; they are permitted to remain. They are merely spread equally over both pans of the balance by the process of randomization and by the control of double-blindness. The balance is thereby deadweighted with a large amount of material which is immaterial to the specific problem at hand. No matter how sensitive originally, such a procedure makes the balance less sensitive, just as an analytic balance, sensitive to a fraction of a milligram under

usual conditions, is no longer swung out of balance by milligrams when dead-weighted with several kilograms on each pan (fig. 3).

Ultimately, therefore, the sensitivity of a method of clinical evaluation is a function of the relative weight of the pharmacodynamic force under investigation and the weight of the nonessential interfering forces which are treated by equalizing them; the greater the former with respect to the latter, the more sensitive the method, and, vice versa, when the latter becomes relatively heavier, the method becomes proportionately less sensitive. The extent to which dead-weighting the balance grossly desensitizes the balance can lead to erroneous interpretations in the sense that the balance indicates no differences whenever it is used to weigh what it is no longer competent to detect.

Of the factors already discussed, some are subject to choice, such as the proper dosage range, the most sensitive subjects, and the appropriate control. Other factors may be modified. The removal of the patient from the home to a constant environment in the hospital may reduce the extraneous variables. The collection of data on the spot, rather than placing it in the hands of the subject himself (a procedure no investigator would ever dream of in any discipline other than psychiatry), reduces the treachery of patient recall. Finally, there remain some irreducible disturbances which can be neither removed nor modified, that is, bias, placebo actions, and the residual extraneous forces. For these there remain the double-blind control and the process of randomization to spread the prejudicial factors equally, so that none of them swings the balance in either direction.

We feel that in the studies with aspirin, which we cited briefly here, the reason for the discrepancy of results by the two methods used is to be found in their relative sensitivity. One method was insensitive because too many interfering forces were dealt with by the procedure of acceptance and balancing out to prevent prejudice of results, whereas the second was sufficiently sensitive because it had removed interference to a practical degree.

A great danger in interpreting clinical evaluations lies in failure to recognize the meaninglessness of the negative answer when the method is not sufficiently sensitive for the purpose. The failure to demonstrate statistically significant differences between drugs or treatments is frequently misinterpreted to mean that no real differences exist. However reasonable the latter may seem from the data, an assertion that the effects of the drug or treatment are identical cannot be proved. No statistical method is capable of, or designed to provide, such a prediction. If differences are noted in the data, statistical tests of significance can merely indicate the probability of their being due to chance. Thus, when the differences are statistically significant, one is assured that this is unlikely a chance occurrence, and one may then, with a measurable degree of confidence, rightly or wrongly (for the statistics themselves do not validate the basic data) ascribe the results to essential differences in the effects of the drugs. However, when the differences are statistically insignificant, a high probability of their being due to chance does not rule out the possibility that they may be real or even important. Such an occurrence could simply result from an inadequate trial or from an insensitive method of evaluation which statistical analysis may not indicate. Only when the design provides built-in controls, showing an ability to discriminate meaningful effects or to show graded effects of graded doses of the drugs, can any valid inferences be drawn from negative results (i. e., statistically insignificant differences).[26]

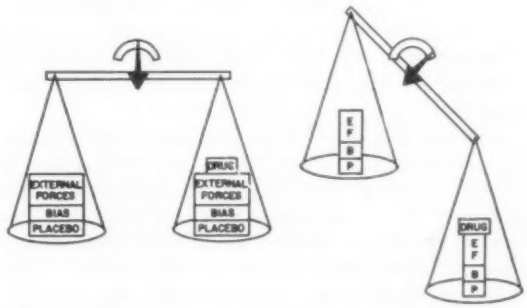

Fig. 3.—Diagrammatic representation of experimental designs for clinical evaluation. *Left*, excessive dead-weighting to prevent chance occurrence from swinging the balance reduces sensitivity to extent that drug effects do not swing balance and, hence, cannot be measured; *right*, reduced dead-weighting through appropriate design makes it possible to measure pharmacodynamic effects of same intensity with same balance.

The question arises whether the double-blind control must invariably be used in clinical evaluations. This has been reviewed by Gold.[218] Much as we favor use of the device, occasionally it does not seem feasible. There are instances in which the drug promptly reveals itself by its unmistakable effect and automatically removes one or both blindfolds. How could one use the double-blind control in a study comparing a general anesthetic and a placebo? Page and Corcoran [27] point out that, although the physician may remain "blind," with many hypotensive drugs the patient's "blindness" soon vanishes because the drugs have obvious pharmacodynamic effects. Despite such difficulties, there are sometimes devices for circumventing them.

Conclusions

It is our categorical stand that, in addition to the use of the placebo control, the double-blind control should also be used whenever and wherever it is

feasible. We conceive of no disadvantage in the application of the double-blind control—only protection against spurious data. It does not handicap design or reduce sensitivity, but it must be used to deal only with bias and psychic factors which cannot be eliminated. We also emphasize as strongly as possible that its use will not validate otherwise poorly designed experiments. When employed in a poorly designed experiment, it may prevent a false-positive interpretation, but it may also lead to a false-negative interpretation.

Each clinical evaluation must be sensitive enough to detect what it proposes to examine, and each experimental design must have built into it an indicator that it is capable of such detection. A negative conclusion is without merit unless a demonstration is incorporated in the clinical evaluation that the method is competent to indicate a positive effect when it is present, i. e., an internal control. It is suggested that in clinical evaluations another demonstrably effective drug always be used in addition to the placebo control to indicate this essential competence of the method.

Beyond this, there is the problem of the sensitivity of the method, the increments in effect which it can distinguish. Few clinical evaluations, indeed, indicate what differences in effect they can discriminate. Yet in all other disciplines of evaluation, it is standard procedure to provide such a scale. Clinical evaluations cannot escape this requirement; the complete method of clinical evaluation must incorporate such a built-in sensitivity scale through the use of graded doses, a demonstration of the increments in pharmacodynamic effect which the method can distinguish. When differences between standard and unknown or placebo are indicated, the sensitivity of the method to distinguish differences is thereby at hand, to indicate the quantitative significance of the differences.

Finally, we should like to state that the proof and establishment of the effects of many drugs, the proof of the superiority of one drug over another, require a plan which is based not only on the principles laid down here but which is also designed with due regard to the particular drug, the particular subject, and the particular circumstance under which the experiment must be conducted. There is as yet no standard method—there are only basic requisites, essential controls, and some well-established procedures—but each different pharmacodynamic action of a drug may need a different subject, a different control, a different circumstance, or a different design for its proper evaluation.

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COMMITTEE ON MEDICOLEGAL PROBLEMS

THE PHARMACOLOGY AND TOXICOLOGY OF ALCOHOL

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This report is chapter 3 from a manual, being prepared by the Committee on Medicolegal Problems, dealing with medical and legal procedures involved in the use of chemical tests for intoxication.

Most of the drug effects of alcohol are due to its presence in the brain, since it is absorbed very rapidly and enters the brain within seconds after it appears in the blood.

The pharmacology of alcohol will be discussed in accordance with its effects on various organs and on certain bodily functions.

Effect on Body Organs

Skin.—Moderate doses of alcohol cause a marked dilation of skin vessels, resulting in a flushed face and hyperemia of other body surfaces. However, in alcoholic coma, the resultant impaired circulation causes a pallor of the skin. These two effects are of central origin.

Gastrointestinal Tract.—A temporary increase in the acidity of the gastric juice follows the ingestion of 4 to 10 cc. of alcohol, diluted to about 7% with water. This effect has been ascribed to the liberation of a histamine-like substance, or perhaps gastrin, by the action of alcohol on the gastric mucosa.[1] Experiments with isolated portions of the stomach and the duodenum showed that only the stomach antrum and the duodenum exhibit this response to alcohol, stimulating secretion in other parts of the stomach.[2] Intravenously administered, alcohol also causes an increase in the gastric secretion of acid, but whether this is due to alcohol in the brain is not known.

Concentrations of alcohol above 15 to 20% inhibit gastric secretion and may cause marked inflammation of the stomach mucosa. Vomiting frequently occurs after rather rapid drinking. Newman [3] has recently shown that the incidence of vomiting is practically the same after intravenous as after oral administration of alcohol, and it appears when the blood alcohol level reaches about 0.12%. This would seem to indicate that the emetic effect is also of central origin.

In the small intestine absorption of alcohol is so rapid that the concentration here rarely exceeds 1 or 2%. Except for a moderate, temporary increase in intestinal secretion, alcoholic drinks have very little effect on the gastrointestinal tract beyond the stomach.

Heart and Circulation.—Grollman [4] gave subjects 2.5 oz. of whisky and observed an increase of 5 to 10% in pulse rate, blood pressure, and total blood flow. These effects practically ceased in 30 minutes. He emphasized that these effects are mild, when compared to the action of many circulatory stimulants. Whether alcohol increases coronary blood

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flow is not entirely settled. Lasker and Sherrod [5] reported a marked augmentation of coronary blood flow of dogs after rapid intravenous injection of 50% alcohol. On the other hand, Russek and associates [6] could observe no significant electrocardiographic response in 12 heart patients who received 1 or 2 oz. of whisky before exercise.

Liver.—Josephson and Asplund [7] reported tests showing some impairment of liver function in one out of six healthy subjects, four hours after each had drunk 300 cc. of 40% alcohol. Forbes and Duncan [8] observed a marked drop in the liver glycogen level in rats receiving 3 Gm. of alcohol per kilogram, a dose corresponding to 18 fl. oz. of 100-proof whisky for a 150-lb. (68-kg.) person. They stated that administration of alcohol failed to restore glycogen in the livers of fasted rats. Sutherland and Watson [9] measured the output of urinary coproporphyrin III in subjects after a period of severe alcoholic intoxication. They reported a marked rise in this porphyrin level, lasting several days. However, this abnormality may not involve the liver. We will not attempt to discuss the question of the possible relationship between chronic alcoholism and liver cirrhosis.

Kidney.—The increased volume of urine after the consumption of alcoholic beverages is due both to the augmented water intake and also the marked diuretic effect of alcohol.[10] Alcohol inhibits the production of the antidiuretic hormone of the posterior pituitary. It appears unlikely that the moderate use of alcohol produces any kidney damage.

Effect on Central Nervous System

The most important drug effects of alcohol are those on the brain. The higher functions of the brain are inhibited first, with the more autonomic mechanisms affected later as the concentration of alcohol increases. Pharmacologists agree that the effect of alcohol on the brain is always a deterioration of function and never an improvement. This principle was first enunciated by the noted German pharmacologist, Schmiedeberg,[11] who stated:

> The subjective and objective states and manifestations, from which alcoholic drinks are considered condiments, are usually attributed to a stimulating effect of the alcohol. . . . However, a closer consideration of these manifestations shows that they are the results of a beginning paralysis of certain parts of the brain. Since this view was first expressed in the first edition of this work (1883), the idea that alcohol acts as a stimulant to the nervous system is no longer held in pharmacological circles.
>
> In the psychic sphere there is first lost the finer grades of attention, judgment, reflection, and ability to comprehend. This serves to explain the typical behavior of persons under the influence of alcoholic drinks. The soldier becomes more courageous since he observes the danger less, and reflects upon it less. The speaker is not tormented and influenced by the proximity of the public; he, therefore, speaks freer and with more animation. Ones self-appraisal rises greatly. Often one is astounded at the ease with which he expresses his thoughts and with the keenness of his judgment in matters which are beyond his mental sphere, when sober, and is later ashamed of this delusion. (Translation by author).

There are three serious types of impairment resulting from the depressant effects of alcohol on the central nervous system.

Less Efficient Vision and Hearing.—Tests of seven functions involved in vision were made by Newman and Fletcher [12] on 50 subjects before and after drinking. The blood alcohol levels of the subjects ranged from 0.058 to 0.218%, all but four being below 0.150%. At 0.115% and above, all subjects showed impairment in one or more of the tests. The highest incidence of impairment was in visual acuity, with 35 of the 50 subjects showing definite deterioration of this function. The number of the 50 subjects showing impairment in the other six tests ranged from 27 for eye coordination to 8 for side vision.

Using a flicker fusion test, Goldberg [13] reported that, with abstainers, reduced visual acuity begins at blood alcohol levels of 0.01 to 0.02%, with the threshold for moderate drinkers 0.02 to 0.03%, and for heavy drinkers 0.04 to 0.07%. In discussing these results he stated: [14]

> Alcohol had the same effect on vision as the setting of a grey glass in front of the eyes, or driving with sun glasses in twilight or darkness: a stronger illumination is needed for distinguishing objects and dimly lit objects will not be distinguished at all; when a person is dazzled by a sharp light it takes a longer time before he can see clearly again.

The effect of alcohol on binocular vision was studied by Brecher and others.[15] They used a procedure which caused momentary double vision without alcohol. After alcohol, the time required to attain single vision was greatly increased, being about doubled at 0.10% blood alcohol and quadrupled at 0.15%, when viewing at 20 ft. The authors stated, "somewhere between 0.05 and 0.10%, all subjects showed definite impairment." Charnwood [16] and Giardini [17] have also reported interference with ability to overcome double vision after the ingestion of 1.5 to 3 oz. of alcohol.

The effect of alcohol on hearing was tested by Hansen.[18] He gave five subjects 0.33 to 1.0 Gm. of alcohol per kilogram of body weight and reported an increase in the auditory discrimination threshold. This means that, after ingestion of alcohol, a higher tone intensity was required for the subject to perceive a given tone or to differentiate between tones.

Clumsiness of Voluntary Muscles.—The efficient transmission of nerve impulse from brain to voluntary muscle is impaired by the presence of alcohol in the brain and causes erratic muscular response. This impairment depends on the level of body alcohol and varies all the way from lessened efficiency in situations requiring intricate muscular coordination, through various stages of thick speech and staggering gait, to complete paralysis of voluntary

muscles. Further rise in the concentration of alcohol in the brain also affects involuntary muscles, and may cause death by paralysis of respiration. The Harvard pharmacologist, Reid Hunt,[19] once said, "A fact frequently overlooked is that a person deeply intoxicated is near death and that a dose of alcohol slightly greater than that necessary to cause intoxication is a fatal dose." The fatal concentration of blood alcohol ranges from 0.5 to 0.9%, although lower concentrations have been reported in cases of fatal alcoholism.[20]

The level of blood alcohol at which beginning incoordination of voluntary muscles appears and the relation of the blood alcohol level to the degree of incoordination have been investigated by a large number of workers. These studies have measured the subject's efficiency in such operations as typewriting, handwriting, target practice, arm-steadiness, sway while standing, equilibrium in walking and standing, and speech. Other tests have involved the actual driving of a car or the use of a device simulating the operation of an automobile. The alcohol effect was always a lowering of efficiency, although the alcoholic subject frequently thought he was doing better than when alcohol-free. Goldberg [14] found that the threshold of impairment for the Romberg and finger-to-finger tests was a blood alcohol level of 0.05 to 0.10%, which levels, for a 150-lb. person, would mean a total quantity of body alcohol equal to the alcohol in 2 and 4 fl. oz. of 100-proof whisky respectively. A review of a number of extensive studies of this sort was recently published by Harger and Julpieu.[21]

Lengthened reaction time is one criterion of efficiency of muscular response. Alcohol in the brain causes a longer time lag before the voluntary muscle can obey the brain. Forbes [22] found that a blood alcohol concentration of 0.10 to 0.20% causes an increase of 10 to 30% in reaction time. At a speed of 30 miles per hour a car travels 44 feet per second, so that an increase of a fraction of a second in applying the brake may be a serious safety hazard in an emergency.

Deterioration of Judgment and Self-control.—Judgment and self-control belong to the highest functions of the brain. Such functions are impaired by lower concentrations of body alcohol than the levels which will inhibit the brain functions previously mentioned. Two results of impairment of these higher brain functions are euphoria and loss of inhibitions.

Euphoria: Euphoria means a hypersanguine condition of the subject. Although this phenomenon can hardly be measured quantitatively, all drinkers know that the consumption of two or three cocktails will cause them to "see the world through rose-colored glasses." Basically, this is the chief reason for the popularity of alcoholic beverages. While alcoholic euphoria may make a social gathering more enjoyable, may improve the appetite of a hypochondriac, and may tranquilize a victim of incurable disease, it is certainly contraindicated for an automobile driver. The driver should view his surroundings very clearly.

Loss of Inhibitions: The inhibitions are our moral brakes. The chief distinction between man and the lower animals is that the former exercises many more inhibitions. Without them he could hardly live a civilized life. The role of alcohol in lowering inhibitions is aptly described in the quotation from Schmiedeberg, given above. Concentrations of alcohol in the brain and blood far below those necessary to produce detectable muscular incoordination will cause a blunting of the sense of caution and normal restraints.

The driver or industrial worker who is a little "high" becomes a poor safety risk. He will take chances which he would avoid when alcohol-free. The added driving hazard due to concentrations of alcohol even below 0.10% is discussed in other chapters. The recognition that alcohol in the brain causes the subject to become more reckless is the reason for the definition of "under the influence" adopted by most courts and is what has prompted our railroads, airlines, and other industries to prohibit any drinking by an employee while on duty.

With some individuals, the loss of inhibitions caused by alcohol results in antisocial behavior. Seneca, the Roman philosopher and senator, wrote: [23] "Drunkenness kindles and discloses every kind of vice, and removes the sense of shame that veils our evil undertakings. For more men abstain from forbidden actions because they are ashamed of sinning than because their inclinations are good." The role of alcohol as an important causative factor in acts of violence has been repeatedly emphasized in recent, careful studies.[24]

The reasons why the central nervous system depression caused by even moderate concentrations of body alcohol is extremely detrimental to traffic safety have recently been very cogently stated by a special technical committee of the West German government: [25]

> The motor vehicle operator requires a sensitive perception-and-judgment ability for every unusual and unexpected moving change of the traffic situation within his sphere; he must literally anticipate the future traffic situation. Especially this ability to feel one's way in the traffic events is adversely affected with certainty at a blood alcohol concentration of 1.5 pro mille even in alcohol-habituated motor vehicle operators. Because of all this, no scientifically established facts are known, which permit assuming that driving fitness still exists above a blood alcohol concentration of 1.5 pro mille. (1.5 pro mille equals 0.15%.) (Translation by Dr. Kurt M. Dubowski, Iowa Methodist Hospital, Des Moines.)

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ABDOMINAL SURGERY IN THE AGED.—The over-all operative mortality in this series of [307] abdominal operations in patients 65 years or older was 16.6%, and this is considerably higher than the 2.1% mortality rate for all operations on the general surgery service during the same period. . . . The mortality rate for operations on patients between 65 and 75 years of age was 13.5%, and this increased to 23.1% for patients over 75. While coexisting disease in itself usually did not affect the mortality, the presence of uremia at the time of surgery was of ominous prognostic significance. The finding of azotemia should be evaluated carefully, for the outlook in the patient with increasing values for blood creatinine and urea nitrogen, in spite of adequate therapy, is indeed poor. It is doubtful whether any but obvious life-saving surgery is indicated in such a case. . . . The contrast of the nonemergency mortality rate of 11.1% and the emergency mortality rate of 26.8% is the most significant finding in this study. This disparity was noted in every category of surgical procedure carried out in the elderly patient. It varied from 1:5 for the upper gastrointestinal surgery to 1:1.2 for the colon surgery. . . . Most surgeons agree that there are certain factors of major importance if the mortality is to be minimal. These factors include restoration or maintenance of a normal blood volume, avoidance of infection, judicious use of antibiotics, control of fluids and electrolytes, and careful evaluation of coexisting disease. Attention to these details will allow one to perform surgery in the aged with optimism and enthusiasm. Only with such a sound physiologic approach can one truly believe that age is no contraindication to surgery.—L. F. Wilkins, M.D., and C. D. Knight, M.D., Abdominal Surgery in the Aged, *A. M. A. Archives of Surgery*, June, 1958.

COUNCIL ON INDUSTRIAL HEALTH

OCCUPATIONAL DERMATOSES—PREDISPOSING AND DIRECT CAUSES

This is the second in a series of reports prepared by the Committee on Occupational Dermatoses of the Council on Industrial Health, American Medical Association.

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Occupational dermatitis continues to be the most frequently encountered industrial disease. This is best explained by considering the numerous factors that influence the susceptibility of the skin to eruptions caused by the occupational environment. These factors can be readily divided into two groups: (1) the innate or predisposing factors which determine the individual's cutaneous resistance and susceptibility and (2) the cutaneous challenges or direct causes presented by the individual's occupational environment.

Predisposing Factors

The cutaneous defense, or lack of it, against noxious agents is dependent to a certain extent on anatomic and physiological characteristics of the integument. These characteristics are sometimes tangible and obvious. At other times they are relatively intangible and obscure.

The tangible factors are the state of activity of the cutaneous pigment, sweat glands, sebaceous glands, metabolic disorders, and the intactness of the epidermis. All may influence the development of occupational dermatoses.

The amount of melanin pigment present in the skin is significant. Where it is present in large amounts, as in the Negro, cutaneous cancer and susceptibility to certain skin irritants are less likely.[1] It particularly protects against injury from ultraviolet light and heat.[2] Conversely, persons with fair or blond skin who have small amounts of pigment are more susceptible to light and heat stimuli than are persons with darker skin.

As the amounts of melanin may vary in the skin, similarly an individual's sweating capacity may be overactive or insufficiently active. If an overabundance of sweat is produced, the local areas so affected may become macerated, the skin surface pH may change, and, in some instances, pore closure may occur.[3] These conditions may predispose toward bacterial and fungus invasion and decreased resistance to external irritants. Excessive sweating can change a solid like calcium oxide to calcium hydroxide, which is an irritant when moist and in contact with the skin. If sweat production is abnormally low or absent, the individual tolerates excessive heat poorly and his tactile sensibility may be diminished.[4] Its lack also prevents the dilution of water-soluble irritants on the skin surface. Eccrine sweat excreted on the surface of the skin also assists in keeping the skin from becoming dry. A clinically dry skin is one which lacks water rather than oil. Thus, inadequate sweat production may lead to an abnormally dry skin.[5]

The exposed skin, except for the palms, soles, and ends of the fingers, is covered with an oily film produced largely by the sebaceous glands. The keratinizing epidermis and the apocrine glands also contribute to this lipid film which assists in maintaining adequate hydration of keratin.[6] Thus, the lipid film is partly responsible for keeping the integument supple and preventing chapping and fissuring. Further, it helps in protection against water and water-soluble agents, contains the precursor of vitamin D, contributes to the build-up of the acid mantle, and reduces the absorption of certain foreign substances. The lack of sufficient sebaceous excretion may lead to fissuring, infection, pruritis, decreased resistance to friction and pressure, and greater intolerance for fat-solvent chemicals.

An overabundance of sebaceous activity may produce a seborrheic state. This worker tends to be more susceptible to folliculitis, oil acne, and chloracne. An example of this relative intolerance is seen in the seborrheic worker with hairy extremities who, when exposed to insoluble cutting oil or heavy greases, is apt to develop comedones, folliculitis, and acne-like lesions. On the other hand, thick, oily skin has a greater tolerance for fat solvents such as naphtha, turpentine, and trichlorethylene.

Metabolic disorders may decidedly affect the skin's ability to maintain its integrity. Diabetes mellitus leads to increased blood and cutaneous glucose content which, in turn, may permit fungus and bacterial infections to occur more readily. The presence of metabolic or adolescent acne constitutes a disadvantage for the young machinist who works with cutting oils.

Ordinarily, the intact normal skin is impermeable to water and electrolytes, and this absorption barrier is presumably attributable to an intact stratum

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granulosum and stratum lucidum.[5] If this barrier is broken by pressure, friction, trauma, or other means, the skin becomes more susceptible to contact dermatitis, infection, and epidermal sensitization.

In addition to these rather well understood factors there are intangible factors which influence the skin's protective mechanism. Vasomotor instability, carelessness, lack of intelligence, and poor personal hygiene are a few of the background conditions which may make an individual worker more susceptible to skin disease. Of these, lack of personal cleanliness is undoubtedly the most common predisposing cause of industrial dermatitis.[1] Most cases of acute occupational dermatitis occur in young and new workers who are possibly less carefull and often fail to observe the suggested hygienic practices.

Preexisting dermatoses must be considered, since the patient with atopic dermatitis, lichen planus, psoriasis, or stasis dermatitis may prove to be unsuitable for many occupational endeavors. As a matter of fact, these nonoccupational dermatoses,

Classification of Actual Causes of Occupational Dermatoses in 41,628 Workers as Reported by Schwartz [1]

Material exposure	Incidence, %
Petroleum products and greases	18.8
Alkalies (and cement)	11.7
Solvents	7.8
Plants and woods	6.5
Metals and metal plating	6.0
Rubber and its compounds	3.2
Burns, physical and mechanical agents	3.2
Chemicals, unspecified	3.0
Paints, enamels, and varnishes	2.7
Acids and acid fumes	2.4
Dyes and dye intermediates	2.3
Chromates and chromic acid	1.7
Biological agents	1.3
Coal tar products	1.1
Furs and fur dyes and hides	1.0
Synthetic resins	0.9
Nonmetallic elements	0.4
Oils, vegetable (oils, fats and waxes)	0.2
All other known exposures	19.4
Unknown exposures	6.4

and particularly any others associated with pruritis, usually lead to breaks in the skin surface, become aggravated by an industrial contact agent, and thereby become compensation problems. Preplacement examinations, carefully performed, can do much to facilitate the proper placement of the worker whose skin is unlikely to withstand the more hazardous jobs.

Sex is a factor in that women have a drier skin and are more susceptible to skin irritants. In spite of this, however, women do not suffer from severe occupational dermatoses as often as men. This may be due to less frequent employment in the more hazardous jobs, but, in addition, women tend to be more cleanly and they report skin irritations more promptly.

The second main group of predisposing factors are those which affect the worker's environment. Lack of proper ventilation, washing facilities, protective clothing, plant inspection, and prompt therapy are remediable conditions which unnecessarily contribute to occupational skin disease.

A clean and well-ventilated plant is more likely to be free of sensitizing and irritating substances. This is particularly true where noxious dusts, vapors, mists, or fumes are produced.[7]

Conveniently located washing facilities and frequent and adequate personal cleansing tend to prevent prolonged contact with substances capable of producing a dermatitis. Shower facilities for use after work may be necessary to reduce prolonged contact with severe cutaneous irritants. Efficient and mild skin cleansers should be readily available.

The difference that protective clothing can make is notable during hot summer months when workers tend to wear less protective clothing. This, in turn, results in a greater incidence of industrial dermatitis due to increased contact with irritants. Proper clothing for the worker, particularly in the presence of irritant chemicals, is an important phase of preventive medicine in modern industry. Not only should the clothing be adequate to protect the exposed parts, but it should be kept clean and changed as often as necessary to protect against harmful agents.

Protective ointments and creams are becoming more effective and more cosmetically acceptable. When wearing of gloves or other protective clothing is not practical, a protective ointment or barrier cream may serve as an aid in skin protection. Appropriate preparations may now be obtained to give limited protection against sunshine and some of the chemical irritants. One of the chief values of a protective cream is that the worker is more apt to remove it and any accumulated irritant by washing before eating and after work.

Periodic and thorough plant inspections, followed by indicated control measures, are necessary to reduce occupational hazards to a minimum. Such measures include education of personnel on how they may best protect themselves.

Medical attention for the worker with a dermatitis should be available. Acute dermatitis treated early is usually more responsive to therapy than a case that is allowed to become chronic. This situation is greatly simplified if the plant physician is well trained in industrial dermatology.

Overtreatment has been emphasized as a frequent factor in the prolongation of the clinical course of certain cases of occupational dermatitis.[8] An acute contact dermatitis will usually respond satisfactorily to local therapy, such as that with 1:20 Burow's solution (aluminum acetate) wet dressings and calamine lotion, along with control of the exposure. If stronger local preparations are used, the dermatitis may be severely aggravated. Dermatologists report that a high percentage of occupational skin diseases referred to them because of failure to heal actually represent cases of previous overtreatment. Common, basic dermatological principles are *sine qua non* in the treatment of occupational dermatoses.

Causes of Occupational Dermatitis

The table classifies the actual causes of the occupational dermatoses of 41,628 workers as reported by Schwartz.[1] Other similar analyses tend to approximate these figures.[9] These reports emphasize the importance of solvents, petroleum products, alkalis, acids, cleansers, and detergents and certain sensitizers in the causation of industrial skin disease. The definitive causes of occupational dermatoses have been classified into five groups: physical causes, mechanical effects, chemical agents, plant poisons, and biological agents.[10]

Physical causes are usually concerned with heat, cold, electricity, sunlight, x-rays, and radium. When the skin is exposed to abnormally high or low temperatures, the normal resistance to its environment may be impaired. Prolonged immersion of the worker's hands in water may produce maceration of the skin and predispose to infection or contact dermatitis. Exposure to abnormally cold temperatures may cause frostbite. Electric burns more often occur among those working as electricians and others not experienced with the exposure. Overexposure to sunlight may lead to sunburn and, if prolonged, can result in abnormal dryness, scaling atrophy, pigmentation, and sometimes epitheliomatous changes in the exposed areas. Blonds and redheads are more susceptible in this regard. Senile keratoses tend to develop into skin cancer, particularly if exposed to excessive active radiation. Overexposure to the radiation effects of x-rays and radium will result in varying degrees of radiodermatitis which can be highly serious since radiodermatitis is a premalignant lesion.

Mechanical effects result from friction, trauma, and pressure. The results produced by mechanical agents may vary from a simple callosity to a severe laceration or contusion. These areas may become more susceptible to fissuring, infection, and contact dermatitis.

The chemical agents cause the greatest number of industrial dermatoses. In 80% of cases the offending agent is a primary irritant and usually is an alkali, acid, or solvent. These can produce a dermatitis through direct local action if sufficient time and intensity of action are allowed. Less commonly the offending agent is a sensitizer. Some synthetic resins are examples. In cases of allergic dermatitis the initial contact with the skin does not produce notable changes outwardly; however, definite allergic changes do occur within the skin so that subsequent contact may lead to a dermatitis. Contact with coal tar, pitch, and certain petroleum compounds may produce photosensitization dermatitis and sometimes skin cancer after many years of exposure.

Many individuals become allergic to poisonous plants and woods. The most common example of the plant poisons is poison ivy. Other common offenders include cashew-nut shell oil, Japanese lacquer, poison sumac, and primrose. Some of the potent wood sensitizers include cocobolo, boxwood, mahogany, Brazilian walnut, rungus wood, cedar, redwood, satinwood, and cocus wood.

The biological agents that can produce industrial skin disease may be classified as bacterial, fungus, or parasitic. Erysipeloid among meat and fish handlers, actinomycosis among farmers, and grain itch among dock workers are examples of three classes of biological agents and the way in which they may produce occupational disease. Many other similar examples in industry could be cited, such as anthrax in hide and wool workers, monilial infection in kitchen workers, and cheese mite infestation among cheese handlers.

Summary and Conclusions

The most common industrial disease is occupational dermatitis, and it is largely preventable. The causes and predisposing factors which lead to the development of industrial dermatitis include, as the most important, lack of cleanliness. Contact with chemicals accounts for fully 90% of all industrial dermatoses. Eighty per cent of these are due to primary irritants, and the remainder are due to sensitizers.

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CONCORD OUT OF CONFLICT

ALL THREE branches of the organizational democracy of the A. M. A. have functioned separately but harmoniously in resolving a disagreement between some medical educators and medical practitioners.

The disunity arose when the Richmond County Medical Society hesitated to accept into membership any physicians who treated fee-paying patients at the University of Georgia's Talmadge Memorial Hospital while serving as faculty members of the university medical school. The society argued that these physicians were unable to control disposition of the fees and therefore they were taking part in the corporate practice of medicine. The hospital, in turn, contended that all fees went into its research fund and that compensation from patients able to pay was preferable to free service for them.

What makes this situation significant is that its handling by the medical profession illustrates the strength of the A. M. A.'s "three branches of government" as an effective constitutional democracy. These branches are similar to the United States system of democratic government, in that the policy-making House of Delegates corresponds to the legislative branch in Congress, the administering Board of Trustees is akin in concept and function to the executive branch centered in the White House, and the Judicial Council operates in the manner of the U. S. Supreme Court as a reviewing tribunal.

How did these three A. M. A. branches operate in the Georgia case? In June of 1956 the A. M. A.'s "legislative" House of Delegates (at the suggestion of the Committee on Medical and Related Facilities) recommended that, "on request of a medical society and a medical school, the American Medical Association's Board of Trustees establish, in cooperation with the Association of American Medical Colleges, a special committee whose function would be to investigate areas where there is friction between the medical school and the profession."

Little more than a year later this policy came to its first test when the Judicial Council was asked to rule on precisely such a friction. Six faculty members serving at the Talmadge Memorial Hospital alleged that the Richmond County Medical Society, by keeping them out, was in effect denying them membership in the A. M. A. and thus jeopardizing their careers. What did the Judicial Council do? Like the Supreme Court, it essentially upheld an action by the democratic system's legislative branch. The Council suggested that the Board of Trustees (executive branch) form a committee to help settle differences between the school and the medical society.

This was wisely done with the cooperation of the A. A. M. C. last April when seven physicians under the chairmanship of Dr. Leonard W. Larson, a member of the A. M. A. Board of Trustees, met separately (and later together) with representatives of the medical school and hospital, the state medical association, and the county medical society. The outcome is an agreement acclaimed by both sides. This pact recognizes that it is not the policy of the medical school or its hospital "to enter into the practice of competitive medicine"; favors the admission of "patients of unusual teaching interest" when referred by attending physicians (except in emergencies); and permits but does not require that fees (set by the attending faculty members) be deposited in a research fund of the hospital. A liaison committee of medical school and medical society representatives was created to resolve specific cases which could lead to controversy.

The A. M. A. committee's success can be attributed largely to the intense desire of its members to learn all the facts in the case, their willingness to travel to the scene and examine the issues in systematic detail, and their insistence on discussing only the germane data at business-like meetings (rather than stray to the emotion of unsubstantiated opinion at informal sessions). As one spokesman for the group commented later: "It may well be that this committee has established a precedent which may prove quite beneficial in the resolution of similar situations."

Much credit must be given to the committee who determined facts and objectively turned conflict into concord through direct negotiations with the parties concerned. Credit also belongs to the early members of the A. M. A. who foresaw the values inherent in the legislative-executive-judicial organization and so designed their constitution so that it might effectively represent the organized physicians of this nation.

THE PRESIDENT'S PAGE

A MONTHLY MESSAGE

Doctors, you have only two months to carry out one of the most important political tasks you have faced in the last decade.

I appeal to you to help elect United States senators and representatives who are dedicated to the promotion and strengthening of freedom and self-government and who support medicine's position against proposed legislation calling for hospitalization and medical care benefits for Social Security beneficiaries.

On November 4 the nation's voters will choose 32 senators and 435 representatives to the 86th Congress. The nominees for these top lawmaking offices now are beginning their campaigns and are seeking the support of their constituents. I urge you to talk or write to the incumbents and the challengers, explaining medicine's reasons for opposing legislation leading to government medicine via Social Security.

I believe we should thank sincerely those who are supporting our position and give them our solid backing on election day. Let us also explain our views to those who have not taken a stand on proposals to extend the federal government's control and direction over American medicine and the health affairs of the American people.

There is, of course, great political appeal in proposals to provide government-supervised hospitalization and nursing home care for the nation's 13 million persons eligible for Social Security benefits. But we know that such programs would offer less than the best medicine and that special privileges for a particular class of citizens soon would lead to demands by others for equal governmental largess.

If we as physicians are going to reverse the increasing federal control over health matters, we must act immediately. We must aid—within the law—in the election of legislators who oppose national compulsory health insurance. If such men and women are not elected, then legislation may be passed during the 1959-1960 session of Congress which would plunge the nation into a program from which there would be no hope of turning back.

We must support the right candidates and oppose their opponents. We must speak out publicly. And as the inspiring "Fighters for Freedom" pamphlet published by the American Farm Bureau Federation points out, we must "study, learn, help, write, serve, talk, work, organize, measure the candidates, register and vote for candidates" of our choice if we are to win our fight for freedom.

Political activity is for everyone. Therefore, I make this urgent appeal to each of you: Take the time during September and October to contact the candidates for the U. S. House and Senate and give them your views. Also explain to your friends and neighbors the real significance of legislation that would add medical service benefits to the Social Security program.

Remember that the issue is not merely the survival of the private-practice system of American medicine. It is really much larger; it is the possible loss of many individual freedoms, not just temporarily but forever.

I believe that we must have federal lawmakers in the 86th Congress who will stimulate and promote a climate in which private effort and ingenuity can exert their full effect. We do not need, or want, a "we'll-do-it-for-you" Congress. By your political activity and through your votes, you can help to make sure our nation is led by those who believe in guiding Americans, not in controlling them.

GUNNAR GUNDERSEN, M.D.
La Crosse, Wis.

ORGANIZATION SECTION

STATEMENTS REGARDING ENACTMENT OF H. R. 11414 AND DEPENDENTS' MEDICAL CARE ACT

June 27, 1958

The Honorable Lister Hill, Chairman
Committee on Labor and Public Welfare
United States Senate
Washington 25, D. C.

Dear Senator Hill:

I would like to take this opportunity to convey to you the views of the American Medical Association on H. R. 11414, 85th Congress. This bill, as passed by the House of Representatives, would amend the Public Health Service Act so as to authorize the Surgeon General of the United States Public Health Service to make grants-in-aid to schools of public health for the provision of comprehensive professional training and services.

The basic position of the American Medical Association with respect to Federal economic aid is one of opposition in those areas where private citizens, institutions, and local communities are capable of providing for themselves. In cases of demonstrated emergency, however, and as a temporary measure, we feel that Federal assistance may be justified.

For example, the Association believes that the financial situation of the nation's medical schools is sufficiently acute at the present time to warrant Federal assistance. We believe, however, that this assistance should be limited to a one-time grant, on a matching basis, and only for the expansion, construction and renovation of physical facilities.

As H. R. 11414 is presently written, it authorizes grants which could be used for staff and faculty salaries, operation and maintenance of facilities, and the acquisition of equipment. We do not believe that the use of Federal funds for such purposes, for what will undoubtedly be an indefinite period, is wise, since it could in our opinion, lead to the regulation and control of the public health schools by the Federal Government.

There is no requirement in this legislation for the Federal funds to be matched by the recipient schools, and therefore this desirable element of local responsibility is lost. Moreover, the bill does not contain any statement limiting or prohibiting Federal control over curriculum, administration, and admissions.

For these reasons, the American Medical Association is opposed to the enactment of H. R. 11414, 85th Congress. We urge your Committee not to report the bill favorably, and to make this letter a part of the record of the hearings on this legislation.

Sincerely yours,
F. J. L. Blasingame, M.D.
General Manager

Reproduced below is the statement of the American Medical Association before the Defense Appropriations Subcommittee of the Senate relative to the Dependents' Medical Care Act of 1956. Testimony was presented by Dr. Hugh H. Hussey (July 15, 1958).

I am Dr. Hugh H. Hussey of Washington, D. C., Dean of Georgetown University Medical School. I am appearing here today as a member of the Board of Trustees of the American Medical Association to discuss the medical care program for the dependents of members of the uniformed services. Since the inception of the program, I have been a member of the Department of Defense Dependents' Medical Care Advisory Committee.

As passed by the House of Representatives, Section 633 of H. R. 12738, 85th Congress, the Department of Defense appropriation bill contains a ceiling on expenditures which we feel could destroy the Medicare program. It appears from the printed hearings of the House Appropriations Committee that the inclusion of this section was recommended in an effort to force the Defense Department to care for more dependents in military medical facilities where, the Committee stated, the cost would be considerably less than in civilian facilities. Later in this testimony, we shall point out that it has not been established that military dependent medical care can be provided more reasonably than civilian care.

Officers in charge of Medicare have concluded that administering the program under the present language of the Appropriations bill would be extremely difficult, if not impossible. In any event, they report that the inclusion of the section would necessitate many major reductions in the benefits now offered to the thousands of dependents who live too far away from military bases to be cared for in military facilities.

As developed in the hearings, before Public Law 569, 84th Congress, was enacted, 40 per cent of dependents were not receiving any form of medical care provided by the government through the military program. Under the old program, therefore, there was a great disparity in the medical services being obtained by dependents of the members of the various uniformed services—indeed, even among dependents of members of the same service.

It was pointed out by representatives of the Department of Defense that this disparity in benefits contributed to the expensive and rapid turnover of trained personnel in the uniformed services. Recognizing this problem, Congress stated in Public Law 569 that "the purpose of this Act is to create and maintain high morale throughout the uniformed services by providing an improved and uniform program of medical care for members of the uniformed services and their dependents." This Committee has been advised by the Department of Defense that, to date, Public Law 569 has achieved its purpose, and the Medicare program has brought about a definite improvement in the morale of all uniformed personnel, particularly those who are married.

With some exceptions the American Medical Association has been pleased, in general, with the way the Medicare program has progressed since it began. We believe the program has been successful, in large measure, because representatives of the Armed Forces and the medical profession have cooperated closely and because dependents of service personnel have been permitted to choose freely between military and civilian sources of medical care.

The total number of dependents cared for in both military and civilian programs showed an overall increase of 39 per cent since the civilian program was enacted in 1956.

In the first 18 months of the program, less than half of the dependents were cared for in civilian facilities by private physicians. As reported in the House hearings, 43.6 per cent of this group resided too far from a military facility; 14.9 per cent required a type of care not available at the military facility; for 12.8 per cent the military facility was inadequate or overcrowded; 5 per cent required emergency care; the remaining preferred civilian facilities for diverse reasons, including those for whom civilian physicians or hospitals were more convenient.

The Department of Defense reported in the hearings before the House Appropriations Committee that of the dependents receiving care in civilian facilities, 41.4 per cent were maternity cases, 9.5 per cent gynecological conditions, and 22.2 per cent involved tonsillectomies. The tonsillectomies performed included a very large backlog which existed when the program was first enacted.

This same report showed that maternity and gynecological cases, according to several analyses of the Medicare program, constituted the major element of cost and frequency of utilization of both military and civilian facilities.

On the question of comparative costs of medical care for dependents in uniformed services and civilian facilities, it has been claimed in the House Appropriations hearings and before this Committee that medical costs in the civilian program are far greater than in the military. We know of no valid studies that have been made by the Department of Defense which accurately compare these costs. To our knowledge, the Department has no cost accounting system which isolates the cost of medical care for the dependent patient, particularly the total overall costs of maternity and surgical care.

This Committee's attention should be called to the fact that outpatient care is not authorized on the civilian side of the program except for emergencies and obstetrics, although outpatient care is authorized in military facilities. Hence the doctors' fees for surgery and deliveries, including preoperative and post-operative care, and all outpatient care for obstetrics are charged against the per diem cost for a few days in civilian hospitals. For example, a physician's delivery fee would be pro-rated against a four-day hospital stay, or $31 a day for physician's services alone; whereas, he may have cared for this patient for nine months and will follow up the case later in his office—all for one fee.

Obviously, when the Air Force states that it can provide care for additional dependents on the basis of $10 per day, and the Navy for $16, which we must interpret to mean chiefly for obstetrics and surgery, they are not including outpatient pre- and post-natal and pre-operative and post-operative costs in arriving at these cost figures. Indeed, last year, as a result of similar claims made by the military services before the Appropriations Committees, the Bureau of the Budget, in reference to the cost of medical care in military facilities, stated in a letter of June 11, 1957:

> The military hospital operating costs include only direct costs, omitting many items of expense which, for budget and management purposes, need not be included in a Federal cost reporting system. The rate of $27.50 per day established by the Bureau of the Budget for the purpose of reimbursement between appropriations when dependents of one service are provided care in another service's hospitals does not reflect the true hospitalization cost to the Government.
>
> At least the following items of expense need to be added to arrive at an approximation of the full cost: depreciation of buildings and fixed equipment; outpatient care incidental to hospitalization; maintenance of a centralized procurement and depot system; maintenance of training facilities directed to increasing proficiency of hospital personnel; and management and professional direction by headquarters' staffs. While the Government is in effect a self-insurer against property and liability damages, such expenses cannot be excluded from a computation of total cost of patient care.

The Budget Bureau letter went on to say:

> There should also be included the costs of fringe benefits provided personnel. Such benefits for military personnel include free life insurance, medical care for the serviceman and his dependents, non-contributory retirement, as well as a number of minor benefits which are not susceptible to cost analysis. The Government also contributes toward the retirement and life insurance of its civilian personnel. While we have included certain of the fringe benefits in our computations, you can appreciate our concern that their costs not be regarded as definitive.
>
> Working with limited information and conceding that cost analyses of these expenses are not maintained, we have estimated that the above components of hospital expenses contribute the following approximate amounts to the cost per

patient day of providing care for dependents in military hospitals: depreciation, $1.25; outpatient care, $3.00; supply overhead, $0.45; education and training, $0.85; headquarters overhead, $0.20; liability and property insurance, $0.20; fringe benefits including life insurance, $1.70; medical and dental care, $0.45; and retirement, $0.50; total, $8.60. If these costs were added to the $27.50 uniformed service reimbursement rate, the total expense would approximate $36.

At the meeting on May 9, 1958 of the Dependents' Medical Care Advisory Committee to the Secretary of Defense, a representative of the Bureau of the Budget reported that a survey was being completed which would bring up to date the figures furnished last year. Since May, there has also been an additional cost factor to consider, based on the military and the civilian pay raises recently enacted which will affect the estimates for these costs for fiscal year 1959. These studies by the Bureau of the Budget have now been completed and indicate that the per diem cost for a dependent patient in military facilities will approximate $44. A copy of the Bureau of the Budget's letter of June 27, 1958 is attached for the Committee's information. I will appreciate your making it a part of the record.

Whether or not the cost is higher in a civilian facility, and we do not feel that it is, the program nevertheless has done what the purely military medical program could not do—it has cared for those dependents not residing near a military installation, others not residing with their sponsors, and those residing where adequate military facilities are not available.

It has always been our belief that any Dependents' Medical Care Program in the Armed Services should allow the dependent a free choice of physician and hospital, and should not be the basis for an expansion of military medical facilities. We have opposed such expansion of military medical facilities and military medical care activities because of the resulting necessity for the drafting of additional physicians under admittedly discriminatory legislation. In our opinion, if the present restrictions are retained in Section 633, both of these objectives would be defeated.

We feel that if the Congress sees fit to continue to provide, or to expand, medical care for the dependents of members of the Armed Forces, the services of civilian physicians and hospitals should be used wherever possible, to be paid for at prevailing rates, with provision for free choice of physicians. In our opinion, this is a sound, fair and workable position. It is one which has been tested and one which will benefit the service personnel and their dependents, relieve the unnecessary strain on the military medical services, and aid in the orderly development of community medical services for all of the people.

If the restrictions now in the bill are retained, there will also be a serious effect on service morale. In this connection, it should be remembered that the Dependents' Medical Care Act was instituted less than two years ago by the Congress primarily to attract and keep valuable personnel in the Armed Forces by giving them one of the fringe benefits that make business and industrial careers attractive.

This program, which is in the nature of a fringe benefit, whose purpose is to maintain high morale in the uniformed services and to encourage more men to enter and remain in a military career, should not be reduced or eliminated. We believe, with Secretary Brucker and the Department of Defense, that the action in setting a limitation on obligations for civilian medical and hospital care for dependents could cause the eventual destruction of the Medicare program.

It does not seem to us to be in the interests of national defense to destroy one program in order to save $30 million, while, at the same time, provide a military pay raise program costing $600 million when both programs have the same objective.

We recommend, therefore, that Section 633 be eliminated from the House Defense Appropriation bill.

REPORT OF JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

The August, 1958, bulletin of the Joint Commission on Accreditation of Hospitals (660 N. Rush St., Chicago; Kenneth B. Babcock, M.D., director) is reproduced here for the information it contains that will be of interest to many physicians.—Ed.

Infections in Hospitals

The presence of infections in hospitals of various kinds will always be with us and we must accept it. To keep these infections to an absolute minimum is of paramount concern to all. This can be done only through continuous education and re-education of all hospital personnel, to carry out known control methods with strict discipline at all times.

The Commissioners of the Joint Commission on Accreditations of Hospitals think that the matter is of such grave importance that they urge hospitals to study their own problem and set up systematic controls. The Commission cannot dictate what these controls should be. However, this Bulletin suggests an approach which might be used as a pattern. Each hospital should develop its own methods of study and control to meet its specific needs.

I. Committee on Infections:

The Commissioners recommend that every hospital have an 'Infection Committee' charged with the responsibility of investigation, control and prevention of infections within hospitals. Membership on this committee should include the medical staff, administration and nursing service personnel.

The member organizations of the Joint Commission are the American College of Physicians, the Amercian College of Surgeons, the American Hospital Association, the Canadian Medical Association, and the American Medical Association.

Where possible, participation with community health organizations such as health departments, medical societies and hospital councils is recommended, because the problem is not necessarily confined to the hospital itself. The responsibility of the committee can appropriately include the following:

A. Establishment of definite controls. Control measures must have validity.

B. Establishment of techniques for discovering infections on patients who have left the hospital:

1. Trace source of infection for which a patient may be admitted.
2. Periodic sampling by letter, card, call or visit of discharged patients.

C. Make certain that bacteriologic services in or out of the hospital are available.

D. Establish a system of reporting all infections among patients and personnel and keep records as a basis for studying the source of infections.

II. Review Existing Practices:

A. Clean and aseptic techniques should be practiced on all services of every hospital at all times. This includes the following procedures involved in patient care:

1. Re-check all dietary and food handling procedures, such as proper dishwashing techniques, preparation and disposal of food, refrigeration, sanitation of ice bins, and the disinfection of contaminated utensils and equipment. There should be a special technique for infected or 'isolation' patients.

2. Review laundry practices. This involves linen control, blanket control, special technique in handling and disposal of contaminated laundry in patients' rooms, nursery, operating room and the laundry itself.

3. Study carefully methods of handling and disposing wastes and excreta of sputum, feces and urine, and the environmental wastes of dressings, floor sweepings and food.

4. Re-study traffic controls and visiting rules in all areas, especially in operating rooms, nurseries and on obstetrical floors. They must be kept at an absolute minimum. Diligent maintenance of general cleanliness in all areas of the hospital, especially in service areas like utility rooms, janitors' closets, trash closets, etc.

5. Check sources of air pollution. Air conditioning and ventilating units should be inspected regularly for contamination through intake sources, screens and filters (wet or dry). Hospital floors and corridors must be considered as potential spreaders of infection. Wet mopping is far preferable to dry sweeping. There should be a definite practice established for the care and cleanliness of the mop after each usage; a dirty mop spreads infection.

6. Routine, periodic culturing of autoclaves and water sterilizers, which is a must for all hospitals.

B. Educate and orient all personnel in the practice of aseptic techniques. An informed worker is a better and a safer worker. It is especially important that physicians not consider themselves the exception to the rule, but both teach and set a good example for all. There can be only one accepted standard of practice. The following practices are some which should be studied:

1. Hand washing and scrubbing practices with review of proper soaps and detergents. Sinks with foot or knee controls in operating rooms, nurseries and isolation rooms are especially vital.

2. Proper gown techniques.

3. Proper mask techniques.

4. Proper dressing cart techniques and procedures.

5. Proper packaging of all goods, materials and instruments for steam sterilization.

6. Proper packing of autoclaves. No autoclave should be so tightly packed that the packages are either tight together or tightly pressed against the walls. It is especially important that all impervious containers such as cans, jars, test tubes and deep trays be so placed in the autoclave that they lie on their sides, or with the opening downward, which prevents the trapping of air and failure of sterilization at the bottom of the container. Improper packaging and improper packing by unskilled people can undo the finest autoclaving precautions.

III. Control Use of Antibiotics:

The medical profession has become increasingly aware of the problems created by the routine and indiscriminate use of antibiotics. Hospital surveys by the Commission reveal that the infection rate in most hospitals using antibiotics routinely is higher than in those not doing so. The common denominator in hospital infections appears to be the resistance of bacteria to antibiotics used on the individual case. From this, the conclusions drawn are that this increase in infections is due to the routine, indiscriminate use of preventive antibiotics in the absence of infection, and the indiscriminate use of antibiotics in the presence of infection without preceding cultures and sensitivity tests. In this latter type of case it is more than useless since without an adequate antibiotic, one may only inhibit the infectious agent and also at the same time stimulate the growth of other organisms which then become pathogenic.

IV. Recognize the Human Factor:

Any machine or equipment is only as good as the individual using it. All the rules, regulations and controls mean nothing if hospital personnel do not constantly check themselves for human errors. Continuing education and eternal vigilance in the cause, effect, and elimination of infections, in addition to instituting proper control methods, are important.

The recognition and elimination of infections in patients and personnel are thought by many to be the most important single facet in the control of

infections. No hospital employee with a carbuncle, boil, acne, paronychia, fungus infection, upper respiratory infection, diarrhea, common cold, or in fact any infection, should be allowed in contact with patients. The reverse is true of infected patients. They must be isolated. One of the commonest avenues overlooked is by the physician not notifying the admitting office of the presence of infection already in the patient, or the admitting office or floor nurse not recognizing its very obvious presence on admittance.

There is no single factor responsible for so-called hospital infections. There are many factors and causes and each should be investigated. The Joint Commission cannot supply and does not have literature on special techniques and treatments. For specific articles refer to medical and hospital library indices on the subject.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS TO MEET IN CHICAGO

The Second Annual Convention of the American Association of Medical Assistants (AAMA) will be held on Oct. 31, Nov. 1-2, at the Palmer House in Chicago.

The group will spend one entire afternoon visiting A. M. A. headquarters, where a program, a tour of the building, and a reception are being arranged for them. The American Medical Association has been working closely with this organization since it was organized in 1955. At the A. M. A. Clinical Meeting in November, 1956, the House of Delegates passed a resolution commending the aims and objectives of the American Association of Medical Assistants.

The AAMA is made up of men and women employed in the offices of doctors of medicine. It was conceived in Kansas City, Kansas, in the fall of 1955, by representatives from 15 states who were interested in establishing a formal organization to further postgraduate education. The constitution and bylaws were adopted at the association's second meeting, held in Milwaukee. The first annual convention of the AAMA was held in San Francisco, in October, 1957, just one "official" year after it was organized. The AAMA now has a membership of 6,000 from 17 states.

The program for the second annual convention includes a welcome address by Dr. F. J. L. Blasingame, Executive Vice-president of the A. M. A. and a symposium conducted by the physician-advisors to the group on such subjects as the value of the AAMA to physicians, the relationship of the medical assistant and Blue Shield, and professional ethics. The afternoon of the meeting's first day will be spent at the A. M. A.

Sections on business, technical, and medical subjects will be conducted simultaneously on the morning of the second day. In the afternoon, talks will be given by a clinic business manager and a director of a pharmaceutical company. The day will end on a social note with a reception, banquet, and installation of officers for the coming year.

The purposes of the association are: "To inspire its members to render honest, loyal, and more efficient service to the profession and to the public which they serve. To strive at all times to cooperate with the medical profession in improving public relations. To render educational services for the self-improvement of its members and to stimulate a feeling of fellowship and cooperation among the societies. To encourage and assist all unorganized medical assistants in forming local and state societies."

JOURNAL INDEX

The index to volume 167 of THE JOURNAL will appear in the Sept. 13, 1958, issue. Those who wish extra copies of the index may receive them, without charge, on request to the Order Department, American Medical Association, 535 N. Dearborn St., Chicago 10.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

AMERICAN BOARD OF ABDOMINAL SURGERY

The Council on Medical Education and Hospitals has received many inquiries from individuals who have been invited to submit applications for the Founders Group of the American Board of Abdominal Surgery. The inquirers have been concerned as to whether the American Board of Abdominal Surgery is approved by the Council on Medical Education and Hospitals.

Several years ago the Council was delegated the responsibility to act for the American Medical Association to grant approval to specialty boards which met appropriate requirements and standards. The Council on Medical Education and Hospitals continues to fulfill this function, assisted by the Advisory Board for Medical Specialties, which is composed of representatives from each of the approved specialty boards.

The American Board of Abdominal Surgery has not sought recognition from either the Council on Medical Education and Hospitals or the Advisory Board for Medical Specialties. It is, therefore, not approved by either of these groups.

MEDICAL NEWS

ALABAMA

Medical Progress Assembly in Birmingham.—The first annual meeting of the Medical Progress Assembly, sponsored by the Birmingham Academy of Medicine, will be held at the Tutwiler Hotel, Birmingham, Sept. 7-9. The program includes 16 papers, including "The Evaluation and Management of Pancreatitis," by Dr. Charles Wilmer Wirts Jr., Philadelphia, president, American College of Gastroenterology. Two panel discussions are planned: "Care of the Injured Patient," moderated by Dr. Champ Lyons, Birmingham, and "Atherosclerosis and Coronary Disease," moderated by Dr. Tinsley R. Harrison, Birmingham. At the banquet, 7:30 p. m., Sept. 8, with Dr. Paul P. Salter Jr., Birmingham, president, The Birmingham Academy of Medicine, presiding, Count Friederich Graf von Saurma, assistant to Wernher von Braun, U. S. Army Ordnance Missile Command, will speak on "You and Space." Question-and-answer periods and a ladies' program are arranged. The assembly has been approved for 16 hours of General Practice Credit, category I. For information write Dr. Samuel Buford Word, 2205 Highland Ave., Birmingham 5, Ala., General Chairman of the Assembly.

CALIFORNIA

New Hospital Started in Lennox.—Ground-breaking ceremonies for the $2,000,000, 100-bed Imperial Community Hospital, Lennox, have been held, with January, 1959, as the target date for occupancy. Being built in the heart of the airport industrial tract, in conjunction with the civil defense plan for Greater Los Angeles, the hospital is a step in the expansion program of the International Airport. The hospital will have a large rehabilitation section, under the direction of Dr. Stephen R. Elek, director of scientific research, which will be equipped for research in cardiac and peripheral vascular diseases, cardiovascular surgery, and in the diagnosis and treatment of outpatients in the cardiac and vascular clinics.

COLORADO

Fellowships in Pediatrics.—The department of pediatrics of the University of Colorado Medical Center, Denver, has announced the availability of fellowships in pediatrics in allergy, infectious disease, hematology, and premature and newborn nursery. Applicants should be graduates of approved schools of medicine and should have completed at least one or more years of hospital training. Preference will be given to those who are in the course of completing the pediatric hospital training required for the examination of the American Board of Pediatrics. The fellowships, for one or two years, include fundamental laboratory research and clinical investigation, as well as training in clinical diagnosis and management. Inquiries should be sent to Dr. Henry K. Silver, University of Colorado Medical Center, 4200 E. Ninth Ave., Denver 20.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education, and public health. Programs should be received at least three weeks before the date of meeting.

MARYLAND

State Meeting in Ocean City.—The semiannual meeting of the Medical and Chirurgical Faculty of the State of Maryland will be held Sept. 11-12 with headquarters at the Commander Hotel, Ocean City. Registration and business sessions will be held the morning of Sept. 11 and the House of Delegates will meet the morning of Sept. 12. The scientific sessions will include an address by Dr. J. Sheldon Eastland, president of the faculty. Dr. C. Lockard Conley, professor of medicine, Johns Hopkins University School of Medicine, Baltimore, will present an illustrated talk on "Recognition and Significance of Anemia." Entertainment will include a clam bake luncheon and a dance. For information write Dr. Norman R. Freeman Jr., Medical and Chirurgical Faculty of the State of Maryland, 1211 Cathedral St., Baltimore.

MASSACHUSETTS

Hospital Seminar in Holyoke.—Dr. Arnold S. Relman, assistant professor of medicine, Boston University School of Medicine, and Dr. William B. Schwartz Jr., assistant professor of medicine, Tufts University School of Medicine, will conduct the semiannual Providence Hospital seminar Oct. 29 on "Fluid and Electrolyte Balance." Starting at 1 p. m., the program will run until 9:30 and will be held in the new hospital on Main Street in Holyoke.

Institute for Rehabilitation in Boston.—The $1,300,000 five-floor Rehabilitation Institute of the Boston Dispensary was formally opened in early May. The structure accommodates 23 house patients, with a daily outpatient load of 100. Patients make their own beds, prepare snacks in a practice kitchen, wash their clothes, if they wish, and go to the cafeteria for main meals. Started as a 10-bed

pilot project in 1954, construction of the new institute began in October, 1956. Facilities include occupational, physical, and hydrotherapy areas, prevocational testing areas, plus recreation and T. V. rooms and roof-top sun deck. The institute was financed through awards from Massachusetts, Maine, and Vermont under the Wolverton Amendment to the Hill–Burton Act, totaling $400,000, community contributions of more than $800,000, and over $50,000 from the Junior League of Boston, Inc. The institute is administered by the Boston Dispensary, a unit of the New England Medical Center. Dr. John J. Lorentz is physician-in-charge. The fourth floor houses the new Arthur G. Rotch Rehabilitation Research Center. Edward H. Frieden, Ph.D., research coordinator, directs the basic and clinical rehabilitation research studies. Construction of the research center was partly financed through federal grants of $125,000.

Boston Dispensary's new Rehabilitation Institute.

Study of Stress Problems of Community Relocation.—A five-year study of the problems of relocation when homes are razed for industrial expansion and other aspects of the community life of persons now residing in Boston's West End area has been launched by the Center for Community Studies. Principal investigator is Dr. Erich Lindemann, professor of psychiatry at Harvard University and chief of the psychiatric service at the Massachusetts General Hospital, Boston. The study of social and psychological stresses involved is being made through a grant to the Harvard department of psychiatry at the Massachusetts General Hospital by the National Institute of Mental Health of the U. S. Public Health Service. The objective of the research is a study of the West End of Boston in the critical situation of relocation, including practical problems of planning and mental health and basic scientific issues concerning adaptation to stress and the social and psychological aspects of community life. The study will include a survey interview with a random sample of 400 resident families; both wives and husbands will be interviewed. Additional intensive interviews will be carried out with small groups of selected people to study special problems, including: family life, community life, adaptation to crisis, and the meaning of the physical invironment. Those questioned will be interviewed before moving and again, several years later, after moving. Two committees have been established: an advisory committee to help in guiding the research, and a citizens committee to aid in maintaining contact with the West End Community.

MISSISSIPPI

Dr. Gray Named State Health Officer.—Dr. Archie Lee Gray, for 20 years director of the Division of Preventable Disease Control of the Mississippi State Board of Health, became state health officer July 1. Eighteen months before, the Board of Health had named Dr. Gray assistant executive officer and secretary of the board, to groom him to take over the health post on the retirement of Dr. Felix J. Underwood. Dr. Gray began his public health service as director of Copiah County Health Department in 1930. When the Commonwealth Fund made an epidemiological unit possible in the Board of Health in 1933, Dr. Gray was called to organize and supervise it. In 1938 the unit was separated from the Division of County Health Work and developed into the Division of Preventable Disease Control and Dr. Gray was named director, a position he has held continuously. He is a diplomate of American Board of Preventive Medicine, and surgeon, inactive reserve, United States Public Health Service.

NEW HAMPSHIRE

Expansion Program at Dartmouth.—The Dartmouth Medical School has acquired $4,300,000 in new capital in the past year, Dr. Stephen M. Tenney, director of medical sciences, has announced. The grants include a $1,500,000 gift from the Rockefeller Foundation, $1,000,000 from the Commonwealth Fund, $1,000,000 from the U. S. Public Health Service, and $800,000 from the Ford Foundation. The educational plan at Dartmouth includes integration of three years of undergraduate liberal arts study with the first two years of medical school. The new curriculum provides elective periods during which medical students may take courses at the adjacent undergraduate college; or they may, if qualified, participate in a supervised research experience for as many as six months. The $4,-

300,000 thus far obtained is part of $10,000,000 in new funds sought for a new medical science building and endowment for the medical science faculty. The building will provide for a maximum of 100 students. During the past year the full-time, basic medical science faculty has been increased from 7 to 24. The expansion and revisions in the medical school's activities are being developed with the aid of a policy committee named by the trustees: Dr. George Packer Berry, dean of the Harvard Medical School, Boston; Dr. John P. Bowler, chairman of the Staff Board of Governors of the Mary Hitchcock Memorial Hospital, Hanover; Dr. Robert F. Loeb, professor of medicine, College of Physicians and Surgeons, Columbia University, New York City; Dr. Waltman Walters, senior surgeon at Mayo Clinic, Rochester, Minn.; and Dr. William Barry Wood Jr., vice-president of Johns Hopkins University, Baltimore.

NEW YORK

Department of Public Health Renamed.—Albany Medical College's department of public health henceforth will be known as the department of community health and there have been 17 new appointments to the teaching staff of the department, Dean Harold C. Wiggers, Ph.D., has announced. The change "reflects a greater emphasis on field study in Albany and surrounding communities resulting from curriculum changes adopted by the department within the past year." Under the change, Dr. Herman E. Hilleboe, State Health Commissioner and a member of the faculty of the medical college since 1948, becomes professor of epidemiology and community health. He formerly was professor of public health. Appointees include Dr. Thomas Hale Jr., director of Albany Hospital, and Dr. Victor N. Tompkins, assistant commissioner of health in charge of the division of laboratories and research in the state health department, both named associate professors.

Personal.—Dr. Anthony S. Bogatko, associate professor of clinical surgery, New York University College of Medicine, is the 1958 recipient of the Alumni Meritorious Service Medallion, bestowed by the Alumni Federation of the university. A bronze medal with the inscription "To Honor One Who Through Good Deeds Has Served Alma Mater" was presented to Dr. Bogatko June 4.—on May 27 New York Medical College, Flower and Fifth Avenue Hospitals conferred the honorary degree of doctor of humane letters on Dr. Willard C. Rappleye, retired dean of Columbia University College of Physicians and Surgeons, "in recognition of his long and distinguished leadership in the field of medical education." Dr. Rappleye was the commencement speaker.—Dr. John F. Moore Jr., who has served with Mutual of New York's Medical Department more than 30 years, has been appointed second vice-president and chief medical director, effective Aug. 1, succeeding Dr. Richard L. Willis, who is retiring after nearly 35 years with the company.

NORTH CAROLINA

Memorial Fund for Dr. Irwin.—A memorial fund honoring the late Dr. Henderson Irwin, of Eureka, has been set up within the Medical Foundation of North Carolina, Inc. The fund, to be known as the Henderson Irwin Memorial Fund, was established by a long-time friend of Dr. Irwin and will be used in medical education and research conducted under the auspices of the University of North Carolina School of Medicine, Chapel Hill. Dr. Irwin received his license to practice in North Carolina in 1914.

University News.—Dr. Michael Balint, consulting psychiatrist of the Tavistock Clinic of London, England, delivered the annual Phi Chi Medical Fraternity Lecture at the University of North Carolina School of Medicine, Chapel Hill, recently on "Opening Moves in Psychotherapy."—Dr. Robert W. Berliner, associate director in charge of research at the National Institutes of Health, Washington, D. C., gave the second annual Adam T. Thorp III Memorial Lecture at the University of North Carolina School of Medicine, Chapel Hill, on "Special Aspects of Renal Physiology." The lecture is given in honor of 7-year-old Adam T. Thorp, III, who was killed in an automobile accident summer before last. The child was the son of Dr. Adam T. Thorp, II, who graduated from the UNC School of Medicine in 1956.

NORTH DAKOTA

State Physicians Meeting in Fargo.—The 12th annual North Dakota regional meeting of the American College of Physicians will be held Sept. 6 in Fargo. The Veterans Administration, through the courtesy of Dr. Michael F. Koszalka, will provide the facilities of the VA Hospital's Auditorium for the meeting. Guest speaker from the college will be Dr. Howard Wakefield, of Chicago, who will present "Experimental Distention of the Human Gallbladder: Its Effect on the Electrocardiogram and Clinical Implications" in the afternoon and "A. C. P. Activities" at the evening dinner session. Dr. Raymond D. Pruitt, Rochester, Minn., will speak on "Certain Atypical Electrocardiographic Manifestations of Acute Myocardial Infarct." Registration fee is $10. For information write Dr. Reinhold O. Goehl, 221 S. Fourth St., Grand Forks, N. D., Governor of the College for North Dakota.

PENNSYLVANIA

Dr. Chapman Wins in Primary.—State Senator Dr. Leroy E. Chapman, of Warren, recently won the Republican nomination for State Senator, a post

which he has held since his first election in 1930. Dr. Chapman was victor over Blain M. Mead in the district comprising Warren and Venango counties. The Senator never has been a loser in any campaign since his first in 1900, when he was elected president of Glade school board. Dr. Chapman has been chairman of the Appropriations Committee of the Senate of Pennsylvania since 1941.

Philadelphia

Dr. Wagner Named "Special Investigator."—The Hospital for Sick Children, London, has announced the appointment of Dr. Bernard M. Wagner as "Special Investigator" in their department of pathology for a three-months' period during 1959 to work with Dr. Martin Bodian. Dr. Wagner, pathologist to The Children's Hospital of Philadelphia, will go to Seattle shortly, where he will fill the Robert L. King Chair for Cardiovascular Research at the University of Washington School of Medicine. New techniques developed by Dr. Wagner at Children's Hospital under the auspices of the National Cystic Fibrosis Research Foundation will be utilized in the study of 200 cases of cystic fibrosis.

Dr. Crampton to Receive Award for Invention.—Dr. George S. Crampton, professor emeritus of ophthalmology, University of Pennsylvania Medical School, will receive an Edward Longstreth Medal from The Franklin Institute Oct. 15. The medal citation to Dr. Crampton reads: "For his development of the Borescope, a specialized periscope for the internal inspection of turbine shafts, rotors, guns and various closed vessels, by which flaws may be detected thus providing protection of vital importance from the physical and economic hazards of operational failure." The Longstreth Medal, founded in 1890 by Edward Longstreth, is awarded by the institute, Philadelphia's 134-year-old scientific-educational organization, "for inventions of high order and for particularly meritorious improvements and developments in machines and mechanical processes." In 1920, in response to a request by Westinghouse Electric Company, Dr. Crampton developed the first borescope in the attic of his Philadelphia home. That same year, he established the Lenox Instrument Company, to produce the instrument. Dr. Crampton also designed and made the first borescope for the Manhattan (A-Bomb) project. He was national president of the Illuminating Engineering Society in 1920-21 and was awarded the Gold Medal of the I. E. S. in 1956.

UTAH

Annual Meeting in Salt Lake City.—The 63rd annual meeting of the Utah State Medical Association will be held Sept. 10-12 at the Hotel Utah Motor Lodge, Salt Lake City. Dr. Reed W. Farnsworth, of Cedar City, president of the association, will open the program with an address. Two symposiums are planned, the first, sponsored by the department of pharmacology and moderated by Dr. Louis S. Goodman, Salt Lake City; and the second, "Treatment of Peptic Ulcer," sponsored by the department of surgery, University of Utah College of Medicine, and moderated by Dr. Walter J. Burdette, Salt Lake City. Guest speakers include Drs. Edward L. Compere, Chicago; Oscar Creech Jr., New Orleans; Peter H. Forsham and Ernest W. Page, San Francisco; Robert L. Jackson, Columbia, Mo.; Vincent C. Kelley, Seattle; John C. Krantz Jr., Ph.D., Baltimore; Petter A. Lindstrom, Salt Lake City; William T. Mustard, Toronto, Ontario; and Theodore E. Walsh, St. Louis. Movie sessions and exhibits are planned. At the president's banquet, 7:15 p. m., Sept. 12, Dr. Francis J. L. Blasingame, General Manager, American Medical Association, will be the speaker. For information write Mr. H. Bowman, 42 S. Fifth East St., Salt Lake City 2, Utah, Executive Secretary.

VERMONT

Dr. Daly Elected to Canadian Office.—Dr. John F. Daly, professor of dermatology at the University of Vermont College of Medicine, Burlington, and chairman of the division of dermatology at UVM, will serve as the vice-president of the Canadian Dermatological Association for the next year. Other officers elected at the association's 12th annual meeting were Dr. Robert P. Forsey, of Montreal, president, and Dr. Gibson E. Craig, of Montreal, secretary.

PUERTO RICO

Announce Appointments in Puerto Rico.—Recent appointments in the School of Medicine of the University of Puerto Rico, San Juan, include Dr. Edward Grzegorzewski, formerly director of the division of professional education, World Health Organization, Geneva, as head of the department of preventive medicine and public health, a vacancy which was created by the appointment of the former head, Dr. Guillermo Arbona as Secretary of Health of the Commonwealth. In addition, Dr. Ivan A. Pelegrina-Sariego has been appointed professor and head of the department of obstetrics and gynecology, the position left vacant since the death of Dr. Manuel Fernandez-Fuster. A new department of psychiatry has been created and Dr. Juan A. Rossello named professor and head of the department. Previously, Dr. Rossello was professor and chief of the section of psychiatry within the department of medicine.

GENERAL

Surgeons Plan World Tour.—The International College of Surgeons will hold its fourth around-the-world postgraduate clinic and lecture tour, begin-

ning with departure from San Francisco Oct. 10. The return to New York will be on Dec. 3. The itinerary will afford an opportunity to attend specially arranged surgical clinics and demonstrations in most of the important cities to be visited. Sections of the College in Hawaii, Japan, Hong Kong, the Philippines, Thailand, India, Egypt, Turkey, Greece, Italy, and Spain will be hosts to the visiting surgeons at their clinics and hospitals. Information may be obtained by writing to Dr. Arnold S. Jackson, tour coordinator, 16 S. Henry St., Madison 3, Wis.

Otorhinologic Meeting in Chicago.—The American Otorhinologic Society for Plastic Surgery, Inc., will meet at the Conrad Hilton Hotel, Chicago, Oct. 12. Two evening panel discussions will be moderated by Dr. John T. Dickinson on "Otoplasty" and "Rhinoplasty." The program includes the following papers:

The Problem of the Naso-Frontal Angle in Rhinoplasty, Dr. Benito B. Rish, Brooklyn.
Deformities of the Chin, Dr. Edward C. Hinds, Houston, Texas.
Surgery of the Lower Lateral Cartilages, Dr. Samuel L. Lemel, Cleveland.
The Indication for Limited Rhydectomies, Dr. Morey Parkes, Los Angeles.

For information write Dr. Joseph G. Gilbert, 75 Barberry Lane, Roslyn Heights, N. Y., Secretary.

Conference on Insulin in Psychiatry.—An International Conference on the Insulin Treatment in Psychiatry has been arranged "to present recent advances in the basic aspects and the clinical uses of Sakel's discovery." There will be morning and afternoon sessions Oct. 24 and a morning session Oct. 25. This meeting, which is co-sponsored by Dr. S. Bernard Wortis, professor of psychiatry, McGill University, Montreal; Dr. Donald E. Cameron, professor of psychiatry, McGill University; and Dr. Jacques S. Gottlieb, professor of psychiatry, Wayne State University, Detroit, will take place at the New York Academy of Medicine, New York City. All interested individuals are invited. For information write to Dr. Max Rinkel, 479 Commonwealth Ave., Boston 15; or Dr. Andrew K. Bernath, 985 Fifth Ave., New York 21; or Dr. Harold E. Himwich, Galesburg State Research Hospital, Galesburg, Ill.

Announce Funds for Medical Research.—The Jane Coffin Childs Fund for Medical Research has announced appropriations made by its board of managers during 1957-1958 in a total sum of $276,087. The largest grants are as follows:

Lewis L. Engel, Ph.D., assistant professor of biological chemistry, Massachusetts General Hospital, Harvard Medical School, Boston; $67,590 for the three-year period (1958-61) for support of investigations of newer methods for the study of steroid metabolism in cancer.

Dr. Stanfield Rogers, research director, The University of Tennessee Memorial Research Center, Knoxville; $40,547 for the three-year period (1958-61) for support of investigations on the mechanism of action of the Shope papilloma virus in producing papillomas in rabbit epithelium.

Dr. Bengt E. G. W. Sylven, chief of laboratory, the Cancer Research Division of Radiumhemmet, Karolinska Hospital, Stockholm, Sweden; $30,000 for the three-year period for support of investigations on normal and malignant cells in various stages of growth and development; also a study of the possible release of enzymal proteins from malignant cells.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States, its territories and possessions in the weeks ended as indicated:

Area	Aug. 2, 1958		Aug. 3, 1957
	Paralytic Type	Total Cases	Total
New England States			
Maine	..	..	1
New Hampshire	..	..	1
Vermont	..	..	..
Massachusetts	1	1	2
Rhode Island	..	..	..
Connecticut	1	2	3
Middle Atlantic States			
New York	5	11	15
New Jersey	4	7	8
Pennsylvania	3	4	7
East North Central States			
Ohio	..	5	23
Indiana	2	5	8
Illinois	2	5	20
Michigan	10	26	27
Wisconsin	..	2	12
West North Central States			
Minnesota	..	..	8
Iowa	1	4	2
Missouri	2	3	7
North Dakota	3	3	2
South Dakota	..	1	..
Nebraska	..	..	1
Kansas	..	..	5
South Atlantic States			
Delaware	..	..	..
Maryland	2	2	1
District of Columbia	..	..	6
Virginia	4	7	7
West Virginia	1	1	3
North Carolina	1	2	21
South Carolina	..	..	3
Georgia	..	..	3
Florida	1	5	3
East South Central States			
Kentucky	..	..	7
Tennessee	1	6	3
Alabama	5	5	2
Mississippi	1	7	7
West South Central States			
Arkansas	..	..	1
Louisiana	2	3	4
Oklahoma	1	8	9
Texas	10	16	23
Mountain States			
Montana	..	2	..
Idaho	..	..	1
Wyoming	..	..	1
Colorado	..	..	2
New Mexico	..	3	4
Arizona	..	1	1
Utah	..	..	..
Nevada	..	..	..
Pacific States			
Washington	..	2	..
Oregon	2	3	3
California	4	8	33
Territories and Possessions			
Alaska	..	..	..
Hawaii	3	3	..
Puerto Rico	2	2	6
Total	74	166	303

Tri-State Meeting in Shreveport.—The Tri-State Medical Society will meet in Shreveport, La., Sept. 10-11. The program includes the following:

Histoplasmosis, Dr. Harris D. Riley Jr., Oklahoma City, Okla.
Allergic Conditions in Children, Dr. Jack R. Anderson, New Orleans.
The Surgical Complications of Pregnancy, Dr. Isidore Dyer, New Orleans.
The Not So Simple Colles Fractures, Dr. Jack K. Wickstrom, New Orleans.
Cardiology, Dr. Don W. Chapman, Houston, Texas.
Surgical Treatment of Cardio-Vascular Disease, Dr. Denton A. Cooley, Houston, Texas.
Benign Disorders of Peripheral Nerves, Dr. Bertrum E. Sprofkin, Nashville, Tenn.

Exhibits are planned, and clinics and case presentations on pediatrics, orthopedics and obstetrics, and medicine and surgery are scheduled. A clinical pathological conference will be held the afternoon of Sept. 11, to be followed by the business meeting and a dove hunt. Registration fee is $10 for nonmembers. For information write Dr. Jason C. Sanders, The Sanders Clinic, 106 E. Kingshighway, Shreveport, La.

Annual Meeting of Obstetricians and Gynecologists.—The 69th annual meeting of the American Association of Obstetricians and Gynecologists will be held Sept. 4-6 at the Homestead, Hot Springs, Va., under the presidency of Dr. William F. Mengert, Chicago. The James W. Kennedy–Joseph Price Oration will be given by Dr. Roberto Caldeyro–Barcia, Montevideo, Uruguay, on "Hormonal Control of the Contractility of the Pregnant Human Uterus." Dr. Edward C. Mann, New York City will present "Habitual Abortion" as the Foundation Prize Thesis. Papers to be presented by invited speakers include:

Ferrodynamics and Pregnancy, Dr. Roy G. Holly, Omaha.
Pregnancy Subsequent to Ligation of the Inferior Vena Cava and Ovarian Vessels, Dr. Jason H. Collins, New Orleans.
Evaluation of Chemotherapy in Ovarian and Cervical Cancer by Tissue Culture Methods, Dr. John G. Moore, Los Angeles.
The Urinary Excretion of Interstitial Cell Stimulating Hormone During Normal and Anovulatory Menstrual Cycles, Dr. Francis M. Ingersoll, Boston.
Atypical Pelvic Pain in Women: Gynecologic-Psychiatric Considerations, Dr. Ralph C. Benson, Portland, Ore.
A Positive Cytology Registry, Dr. James H. Ferguson, Miami.

Entertainment includes the banquet Sept. 5. For information write Dr. Edward Stewart Taylor, 4200 E. Ninth Ave., Denver 20.

Society News.—The **American Goiter Association** has elected the following officers: president, Warren H. Cole, Chicago; president-elect, Edwin G. Ramsdell, White Plains, N. Y.; first vice-president, Virginia K. Frantz, New York City; second vice-president, Merritt P. Starr, Pasadena, Calif.; third vice-president, Benjamin M. Black, Rochester, Minn.; secretary, John C. McClintock, Albany, N. Y.; treasurer, Theodore O. Winship, Washington, D. C.; and executive councilor, John B. Stanbury, Boston (for four years). The next annual meeting of the association will be held in Chicago, April 30-May 2, 1959.——The **North American Chapter of the International Cardiovascular Society** has elected the following officers: president, Dr. Henry Haimovici, New York City; vice-president, Dr. Charles A. Hufnagel, Washington, D. C.; secretary, Dr. Paul T. DeCamp, New Orleans; recorder, Dr. Ralph A. Deterling Jr., New York City; and treasurer, Dr. Jere W. Lord Jr., New York City.——Officers elected at the annual meeting of the **American Rheumatism Association** include: president, Dr. Joseph J. Bunim, Bethesda, Md.; first vice-president and president-elect, Dr. Charley J. Smyth, Denver; second vice-president, Dr. Donald F. Hill, Tucson, Ariz.; and secretary-treasurer, Dr. Edward F. Hartung, New York City.——The **American Neurological Association** has elected the following officers for the coming year: president, Dr. Bernard J. Alpers, Philadelphia; president-elect, Dr. Derek E. Denny–Brown, Boston; first vice-president, Dr. Paul I. Yakovlev, Boston; second vice-president, Dr. Margaret A. Kennard, Ft. Steilacoom, Wash.; secretary-treasurer, Dr. Charles Rupp, Philadelphia; assistant secretary, Dr. William F. Caveness, New York City; editor of transactions, Dr. Rupp. The 84th annual meeting will be held at the Claridge Hotel, Atlantic City, N. J., June 15-17, 1959.

FOREIGN

Symposium on Intestinal Disorders.—The Royal Society of Medicine, London, will present a symposium on "Disorders of the Small Intestine (Excluding the Duodenum)," Oct. 31. Ten topics will be presented at the three sessions with Dr. Edward R. Cullinan, Mr. Harold C. Edwards, and Prof. Charles G. Rob as chairmen:

Investigation of the Small Intestinal Function.
Histopathology of the Small Intestine.
Jejunal Biopsy.
Radiology of the Small Intestine.
Polyposis of the Small Intestine.
Carcinoid Tumours.
Blind Loop Syndrome.
Massive Resection of the Small Intestine.
Medical Commentary on Disorders of the Small Intestine.
Surgical Commentary on Disorders of the Small Intestine.

A panel discussion will conclude the symposium under the chairmanship of Professor Rob. Admission is by ticket only. Overseas visitors should apply for tickets as soon as possible by writing to the Royal Society of Medicine, 1, Wimpole St., London, W. 1, England.

International Congress of Angiology in San Remo.—The III International Congress of Angiology will be held in San Remo (Casino Municipal), instead of in Venice as formerly announced, Sept. 24-28. The general subject, "Experimental and Clinical Pathology of the Peripheral Vascular Diseases," will

be dealt with in five successive meetings. A symposium on experimental and clinical pathology of the lymphatics will be held in conclusion of the congress meetings. For information write to the Secretariat of the Congress, c/o Clinica Dermatologica, Universita di Pisa, Italy.

CORRECTION

The Impact of the Antibiotics on Medicine and Society.—In the review of the monograph of this title in THE JOURNAL, Aug. 9 issue, page 1893, the name of the editor should have been Iago Galdston.

EXAMINATIONS AND LICENSURE

MEDICAL SPECIALTY BOARDS

AMERICAN BOARD OF ANESTHESIOLOGY: *Oral Examination.* San Francisco, Sept. 29-Oct. 3, and Phoenix, April 5-10, 1959. The 1959 written examination will be given in various locations in the United States and Canada, July 17. The final date for filing application for the 1959 written examination is six months prior to the examination. There is no filing deadline for oral examinations. Sec., Dr. Curtiss B. Hickcox, 217 Farmington Ave., Hartford 8, Conn.

AMERICAN BOARD OF DERMATOLOGY: *Written. Several Cities,* June 30. *Oral.* Detroit, Oct. 17-19. Final date for filing all applications is April 1. Sec., Dr. Beatrice Maher Kesten, One Haven Ave., New York 32.

AMERICAN BOARD OF INTERNAL MEDICINE: *Written.* Oct. 20, 1958. *Oral.* Chicago, Oct. 13-16. *1959 Schedule—Written,* Oct. 19. Final date for filing application is May 1. *Oral.* For candidates in the South and Southwest, New Orleans, Feb. 3-6. Final date for filing application is Jan. 1. *Oral.* For candidates in the Midwest. Chicago, April 15-18. Final date for filing application is Jan. 1. *Oral.* For candidates on the West Coast. Final date for filing application is March 1. *Oral.* For candidates on the East Coast, Nov. 6-7, 9-10. Final date for filing application is March 1. *Examination in the Subspecialties. Gastroenterology.* Philadelphia, April 17-18. Final date for filing application is Feb. 1. Sec.-Treas., Dr. William A. Werrell, One West Main St., Madison 3, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: Examination given twice annually, in the spring and fall. In order to be eligible a candidate must have his application filed at least six months before the examination time. Sec., Dr. Leonard T. Furlow, Washington University School of Medicine, St. Louis 10.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Applications for certification, new and reopened, Part I, and requests for re-examination Part II, are now being accepted. All candidates are urged to make such application at the earliest possible date. Deadline date for receipt of application is September 1, 1958. No application can be accepted after that date. It should be noted by prospective candidates that the deadline date in 1959 is August 1. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

AMERICAN BOARD OF OPHTHALMOLOGY: *Written,* qualifying test (Part I), January 1959. Final date for filing application was July 1, 1958. *Oral Examinations 1958* (Part II): Chicago, Oct. 6-10. Sec., Dr. Merrill J. King, Box 236, Cape Cottage Branch, Portland, Maine.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: *Part II.* Chicago, Jan. 21-23, 1959. Deadline for receipt of applications was Aug. 15. Sec., Dr. Sam W. Banks, 116 South Michigan Avenue, Chicago 3.

AMERICAN BOARD OF OTOLARYNGOLOGY: *Oral.* Chicago, Oct. 6-10. Final date for filing application was April 30. Sec., Dr. Dean M. Lierle, University Hospitals, Iowa City.

AMERICAN BOARD OF PATHOLOGY: Chicago, Oct. 30-Nov. 1. Final date for filing application is Sept. 30. Sec., Dr. Edward B. Smith, Indiana University Medical Center, 1100 W. Michigan St., Indianapolis 7.

AMERICAN BOARD OF PEDIATRICS: *Oral.* Chicago, Oct. 24-26 and New York, Dec. 5-7. Sec., Dr. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

AMERICAN BOARD OF PLASTIC SURGERY: *Oral and Written.* Chicago, Oct. 9-11. Final date for receipt of case reports was July 1. Corresponding Secretary, Mrs. Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8.

AMERICAN BOARD OF PREVENTIVE MEDICINE: *Examination in Public Health.* St. Louis, Oct. 24-26. Final date for filing application was Aug. 15. Sec., Dr. Thomas F. Whayne, 3438 Walnut St., Philadelphia 4.

AMERICAN BOARD OF PROCTOLOGY: *Oral and Written, Parts I and II.* September 1958. Final date for filing application is March 15. Sec., Dr. Stuart T. Ross, 520 Franklin Ave., Garden City, N. Y.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: New York City, Dec. 15-16; New Orleans, Mar. 16-17. Training credit for full time psychiatric and/or neurologic assignment in unapproved military programs or services between the dates of Jan. 1, 1950 and Jan. 1, 1954 will be terminated on Jan. 1, 1959. Sec., Dr. David A. Boyd, 102-110 Second Ave. S. W., Rochester, Minn.

AMERICAN BOARD OF RADIOLOGY: *Regular Examination.* Washington, D. C., Dec. 8-11. Final date for filing application was July 1. *Special examination in Nuclear Medicine for those diplomates in Radiology or Therapeutic Radiology.* Washington, D. C., Dec. 6. Final date for filing application is Oct. 1. *Special Examination.* Cincinnati, Mar. 16-19, 1959. Final date for filing application is Nov. 1. Candidates completing training June 30, 1959 are not eligible for the Spring 1959 examinations. Sec., Dr. H. Dabney Kerr, Kahler Hotel Bldg., Rochester, Minn.

AMERICAN BOARD OF SURGERY: Written examinations (Part I) will be held at various centers in the United States, Canada, Hawaii, Puerto Rico, and certain military centers abroad on December 3. The date of the Fall examination in *Part I* has been changed from the last Wednesday of October as announced in its current Booklet of Information to December 3, 1958. Thereafter, examinations in Part I will be held once annually, on the first Wednesday of December. The closing date for filing applications will be August 1. *Part II.* Philadelphia, Sept. 15-16; Rochester, Minn., Oct. 20-21; Nashville, Tenn., Nov. 17-18; New York City, Dec. 15-16; Houston, Tex., Jan. 12-13; New Haven, Conn., Feb. 9-10; Durham, No. Car., March 9-10; San Francisco, April 13-14; Indianapolis, May 11-12; Columbus, Ohio, May 14-15. Sec., Dr. John B. Flick, 1617 Pennsylvania Blvd., Philadelphia 3.

BOARD OF THORACIC SURGERY: Various centers throughout the United States. *Written.* Spring of 1959. Final date for filing application is December 1. Sec., Dr. Wm. M. Tuttle, 1151 Taylor Avenue, Detroit 2.

AMERICAN BOARD OF UROLOGY: *Written Examination.* Twenty-five cities throughout the country, Dec. 5. The oral will be given in Chicago in February 1959. Sec., Dr. William Niles Wishard, Jr., 30 Westwood Road, Minneapolis 26.

GOVERNMENT SERVICES

ATOMIC ENERGY COMMISSION

Technical Exhibit.—The United States Exhibit for the United Nations Second International Conference on Peaceful Uses of Atomic Energy (Geneva, Sept. 1 to 13) complemented the American technical papers and film programs and presented to the conference and to the world a graphic demonstration of the high level of competence and vitality of American science and technology. The displays covered a broad technical front and were divided into four general sections: (1) basic sciences, (2) life sciences, (3) fission reactors, and (4) fusion research.

Highlights of the basic sciences section included displays of some of the recent developments in nuclear physics and chemistry, including the recently discovered catalytic action of the mu-meson in deuterium fusion, the production and identification of anti-nucleons, neutrino physics, and the failure of the conservation of parity in certain types of subatomic reactions. A large liquid scintillation counter in which the radioactive body content of exhibit visitors was measured was a popular feature of the life sciences section. The use of radioisotopes in research and in diagnosis and treatment of cancer, heart disease, and other medical problems was shown. Other displays of general interest included a study of photosynthesis, the biodynamics of metabolism, enzyme action, and milk production. Seven operating isotope laboratories were displayed. The fission reactors section included two operating research reactors. The Triga, a 10-to-30-kilowatt reactor was assembled to produce radioisotopes for use in other parts of the exhibit. The 10-kilowatt Argonaut training reactor was also in operation. To illustrate typical training and research projects, the Argonaut was assembled, tested, and put into operation during the conference. A full-scale model of the four-story high pressure vessel and core of the power reactor now producing electricity at Shippingport, Pa., was displayed. An operating simulator of the experimental boiling water reactor was also displayed. Scale models of other types of power reactors as well as a model of the N. S. Savannah, the nuclear-powered merchant ship now under construction, was featured. The thermonuclear or fusion research section was essentially a status report on the major paths presently being taken by U. S. scientists in pursuit of a controllable, sustained thermonuclear reaction.

AIR FORCE

Residency Training in General Practice.—Although the Air Force has entered the age of space, it still needs general practitioners. Approved residencies in general practice are available at the U. S. Air Force Hospital, Maxwell Air Force Base, Alabama, and certain civilian hospitals. The Air Force physician trained in general practice plays a dominant role in the successful accomplishment of the Air Force medical mission. He is the family physician whose broad general knowledge provides a balanced medical capability and whose close patient-doctor relationship with Air Force men and their families provides real Air Force dividends not measureable by statistics. The Air Force general practice residency program provides one year of training in medicine, including pediatrics and psychiatry and one year in surgery, including traumatic surgery, fractures, obstetrics, and gynecology. It is anticipated that programs will be approved by July, 1959, in additional hospitals at Andrews Air Force Base, Washington, D. C.; Keesler Air Force Base, Mississippi; and Wright-Patterson Air Force Base, Ohio. After completing residency training in general practice, medical officers may attend the primary course in aviation medicine if they so desire and are physically qualified. Physicians interested in an Air Force career in general practice may write directly to The Surgeon General, Headquarters, U. S. Air Force, Washington 25, D. C.

ARMY

Personal.—Brig. Gen. Clement F. St. John has arrived at Brooke Army Medical Center where he will assume command of Brooke Army Hospital, replacing Major Gen. Stuart G. Smith, who has been named commander of Letterman Army Hospital in San Francisco.

NAVY

First Commandant's Representatives' Seminar.—About 22 inactive reserve medical department officers attended the First Commandant's Representatives' Seminar at the Bureau of Medicine and Surgery, Washington, D. C., from Aug. 4 through Aug. 8. The seminar's purpose was to present a general review of the naval reserve, the training programs for undergraduate medical students, and selected phases of recruiting concern[ing] the commissioning of medical department pers[onn]el. The reserve officers attending were faculty members of accredited medical schools throughout the United States.

VETERANS ADMINISTRATION

Retraining the Blind.—A decade of successfully retraining the blind to lead normal lives has been completed by the Blind Center located at the Hines, Ill., VA Hospital. This is the only center of its kind for the VA and the Armed Forces. It has helped 470 blinded veterans to "see" with walking

canes, to overcome fear in doing ordinary things, to use power tools and appliances for the blind, and to become independent, useful citizens again. Honored guests at the ceremony marking the center's 10th anniversary were the 20 blinded veterans currently in residence for the 16-week rehabilitation course. Chief of blind rehabilitation activities since the founding of the center is Russell Williams, who was blinded by an exploding shell in France in World War II. His staff includes 4 instructors in Braille and typing, 16 orienters, 4 manual arts therapists, and a counselor. The orienters are specialists in teaching systematic habit retraining, especially in foot travel. The staff has training and experience in corrective therapy, which provides a good foundation on which to superimpose the special skill and philosophy of a rehabilitation treatment program for blinded veterans.

A typical day at the center includes orientation, Braille, typing, shop work, counseling, physical reconditioning, and group recreation. The recreation may consist of bowling, golf, and weekly dances. An integral part of the training is mastery of the "long white cane." With this cane, the veteran is taught to get about the hospital corridors and grounds. He soon branches out into nearby streets and finally he goes into Chicago's busy downtown section. One veteran said of the training: "Fear can destroy a man a little at a time. Fear of movement and fear to do ordinary things can injure his mental and physical health. After 16 weeks at the center, you lose that fear, and this is away above my expectations. The training is more protection for a blind man than a tank is for a soldier."

Foster Home Program.—The Veterans Administration's nationwide foster home program to provide a normal home life for recovering mental patients has greatly increased in the past two years. The total of 1,249 mental hospital patients living with their "adopted" families in private homes near the hospitals in 1957 is a 24% increase over the number in 1956 and a 56% increase over the number for 1955. The hospitals placed 639 patients in the homes during 1957 and reported 219 of those in the program recovered sufficiently during the year to be discharged from hospital rolls. Most of the veterans in the homes are over 40 years of age and had been hospitalized for many years. Placement in a foster home is the first step in their return to community life.

PUBLIC HEALTH SERVICE

Genetics Study Section.—A genetics study section consisting of a scientific advisory group of nongovernmental scientists has been formed by the National Institutes of Health, to handle the increased number of research grant applications dealing with genetics and to give appropriate recognition to this important, rapidly expanding discipline. In addition to reviewing and recommending action on these applications, the genetics study section is charged with the public health responsibility of surveying the status of research and training in the genetics field in order to determine areas in which additional activities should be initiated or expanded. The cell biology study section will continue to review and evaluate research grant applications dealing with basic problems of cellular structure at all levels of magnification as it responds to stimuli both intrinsic and environmental. The first meeting of the newly constituted study section will be held in September in Bethesda, Md.

Personal.—Dr. Sara E. Branham, internationally known bacteriologist, retired on July 31 from the National Institutes of Health, Bethesda, Md. For 30 years she has been engaged in microbiological research. An authority on the meningococcus, she demonstrated the epidemiological differences in groups of meningococci and played a major role in the development of the current classification of these micro-organisms. With the advent of the sulfonamides, Dr. Branham was one of the first to study the susceptibility of various micro-organisms to these drugs. She also devoted special attention to the toxin produced by Shigella dysenteriae. Since June, 1955, she has served as chief of the Section on Bacterial Toxins in the Division of Biologic Standards.

BUREAU OF STANDARDS

Supplement to Radiation Handbooks.—An 8-page supplement to the National Bureau of Standards Handbooks dealing with radiation protection and related matters has been prepared by the National Committee on Radiation Protection and Measurements (NCRP). It is entitled "Maximum Permissible Radiation Exposures for Man" and summarizes the new recommendations of the NCRP on safe limits of radiation exposure. It extends and clarifies "Maximum Permissible Radiation Exposures to Man" (*NBS Tech. News Bull.* **41**:17 [Feb.] 1957) but is in general conformity with the philosophy expressed in "Report on 1956 Amendments to the Recommendations of the International Commission on Radiological Protection (ICRP)" (*Radiology* **70**:261 [Feb.] 1958). The recommendations of the NCRP are regularly published in the National Bureau of Standards handbook series. Several of these handbooks are being revised to bring them into conformity with the new recommendations. Pending the availability of the revised handbooks, the present supplement provides a simplified statement of the changes needed to comply with the new recommendations.

DEATHS

Antine, William Ⓜ Brooklyn; Long Island College Hospital, Brooklyn, 1926; specialist certified by the American Board of Internal Medicine; member of the American College of Gastroenterology; associated with the Israel–Zion, Maimonides, and Coney Island hospitals; died June 24, aged 54, of coronary thrombosis.

Bailey, Neil Herbert Ⓜ Hartford, Conn.; College of Physicians and Surgeons, Baltimore, 1911; at one time deputy health officer for the city of Hartford; associated with St. Agnes Home in West Hartford, St. Francis and McCook Memorial hospitals; consulting obstetrician to Manchester (Conn.) Memorial Hospital and the Rockville City Hospital in Rockville; died in St. Francis Hospital June 30, aged 78.

Bailey, Robert Ⓜ Coleman, Texas; Medical Department of Tulane University of Louisiana, New Orleans, 1906; veteran of World War I; on the staff of Overall Memorial Hospital, where he died July 4, aged 76, of paralysis agitans.

Baltz, James Ian Ⓜ Detroit; State University of Iowa College of Medicine, Iowa City, 1927; fellow of the American College of Physicians; on the staff of the Henry Ford Hospital, where he died June 29, aged 61, of abdominal carcinomatosis.

Beck, August Leo, New Rochelle, N. Y.; born in New York City June 25, 1883; University and Bellevue Hospital Medical College, New York City, 1908; specialist certified by the American Board of Otolaryngology; veteran of World War I; an associate member of the American Medical Association; member of the American Academy of Ophthalmology and Otolaryngology, American Laryngological Association, and the American Laryngological, Rhinological and Otological Society; fellow of the American College of Surgeons; formerly assistant professor of ophthalmology at the New York University Post-Graduate Medical School in New York City; for many years associated with the New Rochelle Hospital, where he was at one time president of the medical board, and where he died July 6, aged 75, of pulmonary embolus.

Becker, Charles J. Ⓜ Milwaukee; Marquette University School of Medicine, Milwaukee, 1916; died in St. Joseph's Hospital July 4, aged 75.

Ⓜ Indicates Member of the American Medical Association.

Benjamin, Raymond Gordon Ⓜ Nazareth, Pa.; University of Rochester School of Medicine and Dentistry, Rochester, N. Y., 1943; served an internship at St. Luke's Hospital in New York City and Easton (Pa.) Hospital; veteran of World War II; died July 5, aged 41, of coronary occlusion.

Bennette, Edgar Clark, Richwood, W. Va.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1895; served as mayor of Richwood and postmaster; on the staff of the Sacred Heart Hospital; died June 27, aged 88.

Bernheimer, Leopold Benno Ⓜ Chicago; University of Illinois College of Medicine, Chicago, 1922; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology, American Laryngological, Rhinological and Otological Society, and the American College of Allergists; associated with the Veterans Administration Hospital in Hines, and the Cook County Hospital; on the staff of the Michael Reese Hospital, where he died July 15, aged 61, of carcinoma of the rectum and diabetes mellitus.

Black, John Joseph Ⓜ Brooklyn; Fordham University School of Medicine, New York City, 1918; fellow of the International College of Surgeons and the American College of Surgeons; director of surgery at the Rockaway Beach (N. Y.) Hospital and Dispensary; on the staff of St. Catherine's Hospital; consultant at St. Joseph Hospital in Far Rockaway; for many years chairman of the school board in the Greenpoint section of Brooklyn; veteran of World War I; during World War II chairman of the draft board; died July 7, aged 62.

Boodel, John Cullen Ⓜ Chicago; Northwestern University Medical School, Chicago, 1913; fellow of the International College of Surgeons; associated with Cook County and Evangelical hospitals; died in Toledo, Ohio, July 8, aged 67, of a heart attack.

Boyd, Tullie Van, East St. Louis, Ill.; St. Louis University School of Medicine, 1910; veteran of World War I; died July 10, aged 76, of coronary heart disease.

Brenckle, Jacob Frederick, Superior, Wis.; Milwaukee Medical College, 1897; an associate member of the American Medical Association; veteran

of World War I; associated with the Community Memorial Hospital in Redfield, S. D.; died June 26, aged 82, of coronary occlusion.

Buka, Robert Jr., Boston; University of Pittsburgh School of Medicine, 1942; member of the Massachusetts Medical Society; specialist certified by the American Board of Internal Medicine; served on the faculty of Harvard Medical School; veteran of World War II; associated with the Beth Israel Hospital; medical director of the Recuperative Center of the Jewish Women's Health Association; burned to death June 26, aged 40, when his home caught fire.

Calandriello, John J. Ⓜ Brooklyn; Fordham University School of Medicine, New York City, 1917; member of the American Academy of General Practice; veteran of World War I; died in the Brooklyn Hospital June 5, aged 67, of uremia, nephrosclerosis, and diabetes mellitus.

Calhoun, George Arthur, Clairton, Pa.; Baltimore Medical College, 1909; for many years school physician; an associate member of the American Medical Association; died in Harrisburg June 18, aged 74.

Campbell, Theodore Ambrose, Wapakoneta, Ohio; Medical College of Ohio, Cincinnati, 1897; veteran of World War I; associated with St. Rita's and Memorial hospitals in Lima; died July 7, aged 83, of coronary thrombosis.

Cannaday, John E., Charleston, W. Va.; born in Floyd, Va., March 17, 1873; University College of Medicine, Richmond, Va., 1901; an associate member of the American Medical Association and in 1907 member of the House of Delegates; member of the founders group of the American Board of Surgery; member of the Southern Surgical Association and the American Association for the Surgery of Trauma; past-president of the Chesapeake and Ohio Railway Surgeons Association; fellow of the International College of Surgeons and the American College of Surgeons; veteran of World War I; associated with the Charleston General Hospital, where he was first visiting surgeon and since 1924 chief of staff, medical director, and president; died June 29, aged 85, of cerebral arteriosclerosis.

Carrell, Frederick Augustus, St. Paul; University of Minnesota College of Homeopathic Medicine and Surgery, Minneapolis, 1890; died in the Ancker Hospital June 29, aged 99, of cardiorespiratory failure and bronchopneumonia.

Cheng, Ensang Waniella, Boston (licensed in Massachusetts in 1909); died in June, aged 80.

Cottrell, Wilson Philip Ⓜ Reeds Spring, Mo.; University of Arkansas School of Medicine, Little Rock, 1908; died July 3, aged 78, of a heart attack.

Cummins, William Walter Jr. Ⓜ Kansas City, Mo.; University of Kansas School of Medicine, Kansas City, Kan., 1936; veteran of World War II; died in the Research Hospital June 27, aged 47, of cerebral hemorrhage.

Cutler, Condict Walker Jr. Ⓜ New York City; born in Morristown, N. J., Aug. 9, 1888; Columbia University College of Physicians and Surgeons, New York City, 1912; served on the faculty and at one time an alumni trustee at his alma mater; past-president of the Columbia College Alumni Association; veteran of World War I; in 1940 was appointed by Mayor La Guardia a member of an official Advisory Health Preparedness Committee; served during World War II and was awarded the Legion of Merit, a Presidential Citation, and the Congressional Medal for meritorious service; specialist certified by the American Board of Surgery; member of the American Surgical Association, International Society of Surgeons, and American Society for Surgery of the Hand; fellow of the American College of Surgeons; author of "The Hand: Its Disabilities and Diseases"; formerly director of surgery at the Goldwater Memorial Hospital in Welfare Island, where he was a consultant; consultant, Morristown (N. J.) Hospital, and Rockland State Hospital in Orangeburg, N. J.; for many years associated with the Roosevelt Hospital, where he died July 6, aged 69.

Dehli, Herbert Marthinus Ⓜ Colton, S. D.; State University of Iowa College of Medicine, Iowa City, 1932; member of the American Academy of General Practice; president of the school board; associated with the McKennan and Sioux Valley hospitals in Sioux Falls; died June 25, aged 53, of injuries received in an automobile accident.

del Villar, Euripedes Jose, St. Joseph, Mo.; Universidad de Santo Domingo Facultad de Medicina, Dominican Republic, 1948; served an internship at the Riverside Sanitarium and Hospital in Nashville, Tenn., and the Provident Hospital in Chicago; formerly a resident in obstetrics and gynecology at the Kansas City General Hospital in Kansas City, Mo.; died June 6, aged 35, of poison, self-administered.

Dutcher, William Austin, North Berwick, Maine; Tufts College Medical School, Boston, 1905; died May 21, aged 86, of arteriosclerotic cardiovascular disease.

Eckwall, Hubert John, Chicago; Bennett Medical College, Chicago, 1914; veteran of World War I; died in the Alexian Brothers Hospital July 9, aged 70, of pulmonary edema and myocardial degeneration.

Elliott, Hoffman Tyrell Ⓜ Logan, W. Va.; Howard University College of Medicine, Washington, D. C., 1932; member of the advisory committee to the Logan County Board of Education; superintendent of the Denmar (W. Va.) Sanatorium; died in the Pocahontas Memorial Hospital, Marlinton, June 23, aged 57, of ruptured aortic aneurysm.

Engel, Samuel Ⓜ San Francisco; Ludwig–Maximilians–Universität Medizinische Fakultät, Munchen, Bavaria, Germany, 1922; specialist certified by the American Board of Ophthalmology; member of the Association for Research in Ophthalmology; clinical instructor in surgery (ophthalmology) at Stanford University School of Medicine; associated with Stanford University Hospital; died June 28, aged 59, of cancer.

Enns, Jacob Harlow Ⓜ Newton, Kan.; Rush Medical College, Chicago, 1911; died June 26, aged 76.

Fein, Louis Ⓜ Springfield, Mass.; Tufts College Medical School, Boston, 1929; member of the American Academy of General Practice; on the staff of the Springfield Hospital; died June 26, aged 54, of coronary infarct.

Frishman, Morris, Pittsburgh; Johns Hopkins University School of Medicine, Baltimore, 1917; an associate member of the American Medical Association; member of the American Trudeau Society; died in Mercy Hospital April 26, aged 67, of intestinal obstruction.

Gale, Ailie May Spencer, Bakersfield, Calif.; Cooper Medical College, San Francisco, 1905; for many years a medical missionary in China; died March 27, aged 79, of cancer.

Goodwin, Anna Helena, Bala Cynwyd, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1889; formerly on the staff of the West Philadelphia Hospital for Women in Philadelphia; died June 26, aged 96.

Gorsline, Clarence Samuel Ⓜ Battle Creek, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1901; specialist certified by the American Board of Radiology; member of the House of Delegates of the American Medical Association from 1925 to 1936; member of the American Roentgen Ray Society; past-president and secretary of the Calhoun County Medical Society; served as president of the Michigan Association of Industrial Physicians and Surgeons; on the staffs of the Leila Y. Post Montgomery Hospital and the Community Hospital, where he died June 20, aged 82, of cerebral thrombosis.

Greenwald, Theodore Lawrance Ⓜ Morristown, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1933; associated with Orange (N. J.) Memorial Hospital and All Souls Hospital; died June 26, aged 50, of coronary thrombosis.

Guarino, Francis Louis, Woodhaven, N. Y.; Long Island College Hospital, Brooklyn, 1907; an associate member of the American Medical Association; died in the Mary Immaculate Hospital, New York City, May 26, aged 74, of bronchopneumonia, diabetes mellitus, and arteriosclerotic heart disease.

Hertzberg, David Ⓜ New York City; Long Island College Hospital, Brooklyn, 1917; service member of the American Medical Association; died in the Fordham Hospital June 3, aged 74, of coronary thrombosis and arteriosclerosis.

Hill, Edward Curtis Ⓜ Denver; Gross Medical College, Denver, 1891; served on the staff of St. Anthony's Hospital; died May 2, aged 94, of arteriosclerotic heart disease.

Hill, Prescott Tillinghast Ⓜ Providence, R. I.; Harvard Medical School, Boston, 1911; member of the American Trudeau Society; served on the staffs of the Charles V. Chapin Hospital and the Rhode Island Hospital, where he died June 26, aged 72, following removal of substernal thyroid.

Hodgins, Thomas Earl Jr. Ⓜ Jacksonville, Fla.; Vanderbilt University School of Medicine, Nashville, Tenn., 1951; connection with the U. S. Public Health Service terminated Oct. 4, 1955; associated with St. Luke's Hospital, Duval Medical Center, and St. Vincent's Hospital; died June 22, aged 32, of a heart attack.

Jacoby, Hans Ⓜ Huron, S. D.; Schlesische–Friedrich–Wilhelms–Universität Medizinische Fakultät, Breslau, Prussia, 1926; associated with the St. John's Hospital; died May 15, aged 56, of cerebral hemorrhage.

King, Lowell Waldo Ⓜ Salem, Ohio; Western Reserve University School of Medicine, Cleveland, 1918; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology; on the staffs of the Central Clinic and Hospital and the Salem City Hospital; died in Youngstown June 29, aged 66, of injuries received in an automobile accident.

Kroner, Jacques, New York City; Julius-Maximilians-Universität Medizinische Fakultät, Würzburg, Bavaria, Germany, 1925; member of the Medical Society of the State of New York; died June 19, aged 57, of occlusive coronary arteriosclerosis.

Kurschner, David Milton Ⓜ Shenorock, N. Y.; University of Illinois College of Medicine, Chicago, 1932; specialist certified by the American Board of Internal Medicine; associated with Lebanon Hospital and on the staff of the Home and Hospital of the Daughters of Jacob, New York City; died in the Northern Westchester Hospital in Mount Kisco April 26, aged 54, of acute pulmonary edema.

Larsen, Antonius Andrew Ⓜ South Sioux City, Neb.; University of Nebraska College of Medicine, Omaha, 1918; member of the American Academy of General Practice; died June 26, aged 66.

Lennard, Oswald Dawkins, Verplanck, N. Y.; Meharry Medical College, Nashville, Tenn., 1928; member of the Medical Society of the State of New York; on the staff of the Harlem Hospital, New York City, where he died June 30, aged 64.

Lovvorn, Robert M., Richland, Ga.; University of Georgia Medical Department, Augusta, 1889; also a Baptist minister; died in Bowdon June 22, aged 92.

McClernan, Bertha K. Mackel, Butte, Mont.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1899; died June 1, aged 84.

McCooey, James Henry Ⓜ Woonsocket, R. I.; College of Physicians and Surgeons, Baltimore, 1906; died June 29, aged 74, of myocardial insufficiency.

McCoy, Bernice Ⓜ Whittier, Calif.; University of Pennsylvania School of Medicine, Philadelphia, 1924; veteran of World War II; served with the maternal and child hygiene division of the Los Angeles County Health Department; died June 13, aged 62, of dissecting aneurysm of the aorta and arteriosclerosis.

Maclaire, Aaron Scott, New York City; Columbia University College of Physicians and Surgeons, New York City, 1918; died June 8, aged 63, of coronary arteriosclerosis and fibrosis of the left ventricle.

Mansfield, Thomas Richard, Framingham, Mass.; Boston University School of Medicine, 1929; served on the faculty of his alma mater; veteran of World War II; died in the Leonard Morse Hospital, Natick, June 28, aged 57, of coronary occlusion, myocardial infarction, and ruptured left ventricle.

Manss, Charles Walter, Cincinnati; Miami Medical College, Cincinnati, 1902; died in Arlington, Va., June 28, aged 81.

Merkatz, Harry, New York City; University and Bellevue Hospital Medical College, New York City, 1928; died in the New York Hospital May 2, aged 56, of cerebrovascular accident and cerebrovascular arteriosclerosis.

Meyer, Julius Felix Ⓜ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1910; served on the staffs of the Children's Memorial, Michael Reese, and Edgewater hospitals; died July 3, aged 78, of heart disease.

Nelson, Anton N., Clear Lake, Wis.; Milwaukee Medical College, 1907; president of the Bank of Clear Lake; died in La Crosse June 25, aged 80, of coronary disease.

Patterson, John Gordon, Klamath Falls, Ore.; Willamette University Medical Department, Salem, 1903; Jefferson Medical College of Philadelphia, 1908; past-president of the Klamath County Medical Society; died in the Hillside Hospital June 23, aged 86.

Preston, John Bruno Ⓜ Chicago; University of Illinois College of Medicine, Chicago, 1943; also a graduate in pharmacy; veteran of World War II; interned at the Cook County Hospital; specialist certified by the American Board of Surgery; served a residency at the Veterans Administration Hospital in Oklahoma City, Okla., and St. Mary of Nazareth Hospital, where he was a member of the staff, and where he died July 3, aged 41, of generalized metastatic carcinoma and testicular seminoma.

Probst, Everett William Ⓜ Rutherford, N. J.; University and Bellevue Hospital Medical College, New York City, 1930; member of the American Academy of General Practice, American Academy of Occupational Medicine, and the Industrial Medical Association; veteran of World War II; medical director of Reaction Motors Inc., Denville; associated with the Riverside Hospital in Boonton and the Dover (N. J.) General Hospital, where he died May 22, aged 53, of myocardial infarction.

Rooney, Paul Neill Anthony, Boston; Harvard Medical School, Boston, 1924; member of the Massachusetts Medical Society; awarded the Distinguished Service Cross during World War I; associated with Faulkner Hospital and St. Elizabeth's Hospital, where he died June 16, aged 63, of acute focal pericholangitis and choledocholithiasis.

Rosebrough, Charles Asher, Sweetwater, Texas; St. Louis College of Physicians and Surgeons, 1910; member of the American Academy of General Practice; associated with Sweetwater Clinic and was a staff member at Simmons Memorial Hospital; died June 8, aged 71, of acute coronary occlusion.

Sage, Albert Werner Ⓜ Kenton, Ohio; Western University Faculty of Medicine, London, Ontario, Canada, 1904; died in San Jose, Calif., June 7, aged 75.

Schaff, Burnett Ⓜ Coral Gables, Fla.; University and Bellevue Hospital Medical College, New York City, 1932; specialist certified by the American Board of Surgery; fellow of the American College of Surgeons; member of the American Broncho-Esophagological Association; service member of the American Medical Association; veteran of World War II; clinical assistant professor of anatomy at the University of Miami School of Medicine; associated with the Veterans Administration Hospital, where he died June 16, aged 50.

Schmidt, Charles Leopold Ⓜ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1908; on the staff of the Evangelical Hospital; died June 30, aged 81, of cancer of the rectum and arteriosclerotic heart disease.

Schrack, Frank Mansfield, Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1903; an associate member of the American Medical Association; vice-president of South Pittsburgh Savings and Loan Association; died in the Southside Hospital June 21, aged 79, of cerebral thrombosis and arteriosclerotic heart disease.

Sexton, Frank Edward, Cleveland, Ohio; University of Wooster Medical Department, Cleveland, 1909; veteran of World War I; for many years on the staff of St. Ann's Hospital; on the staff of St. Vincent Charity and St. Alexis hospitals; died June 30, aged 75, of hypertensive cardiovascular disease.

Shields, Randolph Tucker, Winchester, Va.; University College of Medicine, Richmond, 1901; for many years a medical missionary in China; formerly assistant professor of pathology at the University of Tennessee College of Medicine in Memphis, Tenn.; died in Chapel Hill, N. C., June 9, aged 80, of arteriosclerotic heart disease.

Shifrin, Max Ⓜ Chicago; University of Illinois College of Medicine, Chicago, 1926; veteran of World War II; associated with the Mount Sinai and Weiss Memorial hospitals; died in the Billings Hospital June 26, aged 57, of malignant brain tumor.

Shrewsbury, Lewis Evert Ⓜ Beckley, W. Va.; University of Louisville (Ky.) Medical Department, 1914; past-president of the Raleigh County Medical Society; served as city health officer; died June 22, aged 70.

Simmons, Fred Albert Ⓜ Boston; Harvard Medical School, Boston, 1933; certified by the National Board of Medical Examiners; specialist certified by the American Board of Surgery; fellow of the American College of Surgeons; served on the faculty of his alma mater; past-president of the American Society for the Study of Sterility; associated with Massachusetts General Hospital; consulting surgeon at the Massachusetts Eye and Ear Infirmary; died June 19, aged 51, of coronary disease.

Simpson, Charles Alexander, Cleveland; Meharry Medical College, Nashville, Tenn., 1927; died in the Forest City Hospital June 4, aged 68, of pneumonia.

Sisson, Walter Hall Ⓜ Portsmouth, Ohio; University of Vermont College of Medicine, Burlington, 1915; member of the Industrial Medical Association; plant physician and surgeon for Detroit Steel Corporation, Portsmouth Division; associated with Portsmouth General Hospital; died in the University Hospital, Columbus, June 28, aged 67, of brain tumor.

Sloan, Elihu Frank Ⓜ Columbiana, Ala.; Medical Department of Emory University, Atlanta, 1916; for many years health officer for Shelby County; died in Birmingham June 8, aged 65, of myocardial infarction and coronary artery disease.

Smith, Abraham, Great Neck, N. Y.; Long Island College Hospital, Brooklyn, 1918; died May 1, aged 66.

Sobin, David Julian Ⓜ West Covina, Calif.; Wayne University College of Medicine, Detroit, 1937; member of the American Society of Anesthesiologists; served as health officer in Carsonville, Mich.; on the staff of the Lark Ellen Hospital; died June 14, aged 48, of cerebral hemorrhage.

Stafford, Frank Williams John Ⓜ Detroit; Johns Hopkins University School of Medicine, Baltimore, 1917; member of the American Academy of General Practice; on the staff of the Grace Hospital; died in the Harper Hospital June 23, aged 65, of adenocarcinoma of the colon with metastases.

Stanfill, Jacob Edmund, Memphis, Tenn.; University of Tennessee College of Medicine, Memphis, 1927; associated with the West Tennessee Tuberculosis Hospital; died June 18, aged 59.

Stanley, Leonard Gove, Albany, N. Y.; Albany Medical College, 1895; founder and director of the Empire Orchestra; died June 8, aged 87.

Stern, Max E., Tampa, Fla.; Medico-Chirurgical College of Philadelphia, 1916; for many years practiced in Newark, N. J. where he was associated with Beth Israel Hospital; member of the Medical Society of New Jersey; served as a member of the medical staff of the New Jersey State Athletic Commission; at one time associated with the New York Yankees baseball team; died in the Tampa General Hospital June 19, aged 70, of cancer of the stomach.

Stokes, Robert L., Brevard, N. C.; College of Physicians and Surgeons, Baltimore, 1903; died June 16, aged 82.

Stone, Burl Eugene Ⓜ Lawton, Okla.; University of Oklahoma School of Medicine, Oklahoma City, 1952; interned at the St. Anthony Hospital in Oklahoma City; associated with the Comanche County Memorial Hospital and Southwestern Clinic Hospital; died June 29, aged 34, of a self-inflicted gunshot wound of the chest.

Stout, Frances Margaret Willie, Pasadena, Calif.; University of Utah College of Medicine, Salt Lake City, 1944; school physician for Los Angeles city schools; died June 18, aged 37, of acute myocarditis.

Strange, Russell Hope Ⓜ Mount Pleasant, Mich.; Northwestern University Medical School, Chicago, 1925; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and the American Society of Ophthalmologic and Otolaryngologic Allergy; fellow of the American College of Surgeons; chief of otolaryngology and ophthalmology on the staff of the Central Michigan Community Hospital; consultant, Reed City (Mich.) Hospital and the R. B. Smith Memorial Hospital, Alma; died in the Midland (Mich.) Hospital June 26, aged 59, of coronary occlusion.

Swarts, Ralph E., Hartford, Conn.; Johns Hopkins University School of Medicine, Baltimore, 1918; served during World War I and was awarded the Distinguished Service Cross and the Croix de Guerre; retired surgical director of the Aetna Casualty and Surety Company; died in the Veterans Administration Hospital, Newington, June 11, aged 67.

Taylor, Raymond Griswold, Los Angeles; born in Sycamore, Ill., Feb. 15, 1872; University of Southern California School of Medicine, Los Angeles, 1896; specialist certified by the American Board of Radiology; an associate member of the American Medical Association and vice-chairman, Section on Radiology, 1937-1938, and chairman, 1938-1939; member of the American Roentgen Ray Society; fellow of the American College of Physicians; past-president of the Radiological Society of North America; served as secretary of the Los Angeles County Medical Society; formerly superintendent of the Los Angeles County General Hospital; served on the staff of the Hospital of the Good Samaritan, where he died June 28, aged 86, of pneumonia.

Thompson, John Budd Ⓜ Bangor, Maine; Medical School of Maine, Portland, 1899; past-president of the Penobscot County Medical Society; served as secretary and treasurer of the Maine Medical Association; veteran of World War I; during World War II examining surgeon for the Bangor Induction Board; for many years associated with the Eastern Maine General Hospital, where he died June 25, aged 83.

Van Ness, Allan Edward, Nashville, Tenn.; Vanderbilt University School of Medicine, Nashville, 1916; served with the American Expeditionary Forces during World War I; died in the Vanderbilt University Hospital June 22, aged 64, of dissecting aneurysm of the aorta.

Van Oosten, Charles Spellman Ⓜ Chicago; Chicago Medical School, 1927; on the staff of the Jackson Park Hospital, where he died June 28, aged 68, of uremia.

Vorbeck, Joseph Chester, Ventura, Calif.; American Medical College, St. Louis, 1899; formerly practiced in St. Louis; died June 19, aged 78.

Vreeland, Frederick D. Ⓜ Berkeley Heights, N. J.; Dearborn Medical College, Chicago, 1905; formerly practiced in Chicago; member of the Illinois State Medical Society; died July 8, aged 86.

Walker, Joe Edmund Ⓜ Long Beach, Calif.; University of California School of Medicine, San Francisco, 1925; veteran of World War II; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; member of the staff and past-president of the board

of directors of Seaside Memorial Hospital; on the staffs of St. Mary's and Community hospitals; died in Banning June 29, aged 58, of cancer of the lung.

Ward, Sherman Carl, Lorain, Ohio; University of Michigan Medical School, Ann Arbor, 1915; member of the Ohio State Medical Association; served as county coroner; on the staff of St. Joseph's Hospital, where he died June 29, aged 66, of coronary occlusion and arteriosclerotic heart disease.

Warren, George Hilliard, Perry, Fla.; St. Louis University School of Medicine, 1904; died May 30, aged 81, of cerebrovascular accident and generalized arteriosclerosis.

Weber, William Lewis, Philadelphia; Medico-Chirurgical College of Philadelphia, 1914; an associate member of the American Medical Association; served on the city department of health; since 1925 on the staff of the Abington (Pa.) Memorial Hospital; died in the Graduate Hospital of the University of Pennsylvania June 18, aged 68, of dissecting aneurysm.

Weinberg, Frederick Samuel, New York City; Universität Heidelberg Medizinische Fakultät, Baden, Germany, 1911; died May 30, aged 69, of congestive heart failure and generalized arteriosclerosis.

White, Edward Olin Ⓜ Madison, Ga.; Medical College of South Carolina, Charleston, 1946; member of the American Academy of General Practice; on the staff of St. Mary's Hospital in Athens; died June 18, aged 35, of coronary occlusion.

White, John Keller, Sayville, N. Y.; Long Island College of Medicine, Brooklyn, 1946; member of the Medical Society of the State of New York; interned at the Brooklyn Hospital; certified by the National Board of Medical Examiners; a captain in the medical corps, Army of the United States; served on the staff of the Little Falls (N. Y.) Hospital; killed in a plane crash June 29, aged 37.

Wiener, Isidore Kalisch Ⓜ Watervliet, N. Y.; Johns Hopkins University School of Medicine, 1911; specialist certified by the American Board of Otolaryngology; formerly on the faculty of the University and Bellevue Hospital Medical College in New York City, where he was associated with the Mount Sinai Hospital, Hospital for Joint Diseases, and Harlem Hospital; industrial physician at the Watervliet Arsenal; died in the Albany (N. Y.) Hospital June 18, aged 74, of cancer.

Williams, Benjamin Franklin, Salem, Ore.; Lincoln (Neb.) Medical College of Cotner University, 1899; specialist certified by the American Board of Psychiatry and Neurology; fellow of the American Psychiatric Association; veteran of World War I; for many years superintendent of the Nebraska Hospital for the Insane in Lincoln, Neb.; served as chairman of the board of control for state institutions in Nebraska; associated with the Oregon State Hospital; died June 23, aged 82, of cerebral hemorrhage.

Williams, Nathan Bangs Ⓜ Belle Plaine, Iowa; State University of Iowa College of Medicine, Iowa City, 1927; president of the city park board; served as a member of the board of education and as director of the Citizens State Bank; associated with Mercy Hospital and St. Luke's Hospital in Cedar Rapids, where he died June 24, aged 57, of pulmonary embolus.

Wills, Thomas Edmund Ⓜ Pottstown, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1895; served on the staff of the Pottstown Hospital; died June 4, aged 87, of pulmonary embolism.

Wilson, Talmadge S. Ⓜ Lieut. Commander, U. S. Navy, retired, Stuart, Fla.; University of Georgia Medical Department, Augusta, 1914; retired from the Navy on June 30, 1937; veteran of World Wars I and II; for many years practiced in Paterson, N. J., where he was on the staff of the Paterson General Hospital; service member of the American Medical Association; associated with the Martin County Hospital; died June 15, aged 68, of a heart attack.

Winston, Joseph Pendleton, Anchorage, Ky.; University of Virginia Department of Medicine, Charlottesville, 1892; an associate member of the American Medical Association; died in the Pewee Valley (Ky.) Sanitarium and Hospital June 15, aged 88.

Wolfe, Clinton Silvester, Topeka, Kan.; Bennett Medical College, Chicago, 1909; died June 17, aged 75.

Writt, William Morgan Ⓜ Sharon, Pa.; University of Pittsburgh School of Medicine, 1911; associated with the Sharon General Hospital; died June 10, aged 69, of a heart attack.

Zinsser, Harry Frederick, Pittsburgh; University of Pennsylvania School of Medicine, Philadelphia, 1912; an associate member of the American Medical Association; clinical professor of medicine at the University of Pittsburgh School of Medicine; associated with Presbyterian Hospital and St. Francis Hospital, where he was staff president and where he died June 22, aged 71, of carcinoma of the colon with metastases.

FOREIGN LETTERS

AUSTRIA

Changes in the Veins Following Injuries.—At the meeting of the Society of Physicians in Vienna on June 27, Drs. R. Gottlob and G. Zinner said that the technique developed by O'Neill to demonstrate endothelial cells by silver impregnation of the interstitial substance had been modified in such a way that it could be used on the venules of a rabbit. The lesions caused by various injuries were classified as follows: O, normal intima and regular cell boundaries; I, thornapple shape of the intima; II, partial destruction of the interstitial substance and interrupted cell boundaries; III, cell boundaries no longer recognizable and staining of the deeper layers by the silver nitrate solution. The above mentioned lesions develop after mechanical injuries, chemical injuries, or surgical intervention near the veins. After irradiation with x-rays lesions were observed at the time of the early erythema and then again about 10 weeks later. In the presence of lesions of groups II and III the permeability was always greatly impaired. This could be easily demonstrated by applying Evans-blue solution. In normal and slightly damaged areas the stain could not penetrate into deeper layers but in more severe injuries the stain penetrated into the deeper layers and could not be removed by washing the vein. After the intima had been treated with histamine, no morphological lesions nor any disturbance of permeability could be demonstrated by means of the above described method. This finding supports the belief that histamine does not in the first instance impair permeability but acts only secondarily to impair permeability following a disturbance of the precapillary circulation.

Endothelial Lesions Due to Contrast Mediums.—At the same meeting the same doctors stated that local lesions produced by radiopaque contrast mediums might occur in the walls of blood vessels in the kidneys or central nervous system, particularly in the vascular endothelium. Impairment of the vascular wall after such exposure was not revealed by the histological stains in general use but only after staining of the interstitial substance with 0.25% silver nitrate solution. In this way severe impairment of the endothelium could be demonstrated following the action of the commonly used iodized contrast mediums. Simultaneous tests were made with glucose solution of the same percentage and under the same conditions. Neither glucose nor contrast medium caused endothelial damage in a 5% solution but promptly produced maximal endothelial damage in a 15% solution. These stronger concentrations simultaneously produced severe disturbance of permeability, manifested by diffusion of a stain like Evans-blue through the impaired endothelium, whereas the 5% solution produced no disturbance of permeability. A phlebogram of a rabbit showed that impairments by contrast mediums occur especially in the area of the valves of the veins. The speakers stressed the powerful effect such mediums have on the vascular endothelium and the disturbance of permeability and thrombus formation resulting therefrom.

Acceleration of Parturition.—At the meeting of the Austrian Society of Obstetrics and Gynecology in Graz in May, Dr. E. Leinzinger stated that a marked acceleration of delivery can be effected by the administration of Lyspamin (1-nicotinylamino-1, 2-diphenylethane) combined with Hydergine (a mixture of hydrogenated ergot alkaloids). Dilatation of the cervix was accelerated as compared to the untreated controls. Methylergonovine therapy, which also reduces the loss of blood in addition to the acceleration of this stage, is recommended in the third phase of labor.

CANADA

Mammary Artery Implantation for Coronary Disease.—A. Vineberg (*Canad. M. A. J.* 78:871, 1958) based his concept of the myocardial circulation in health and disease on certain anatomic and pathological facts that are frequently ignored. He noted that the extensive arteriolar network in the myocardium received arterial blood directly from the coronary arteries and was usually free from disease even when its supplying coronary arteries were sclerotic. Burying an internal mammary artery in the myocardial tunnel made in the left ventricle brings an extracardiac source of blood to the myocardium, and a connection is made between the buried artery and the coronary circulation. Vineberg described his own method of producing gradual coronary occlusion in dogs and noted that when internal mammary artery implantations were performed on these animals, exercise or excitement more than five months later did not produce death, as it did in controls. Autopsy showed that 89% of the implanted arteries were patent and 84% had formed mammary-coronary anastomoses. The following criteria for performing mammary artery implantation in patients was suggested. They should have proved coronary artery disease with

The items in these letters are contributed by regular correspondents in the various foreign countries.

typical angina pectoris and at least one to two years of adequate medical treatment. The operation should not be performed when the patient is symptom-free, when there is evidence of disease activity or of left ventricular failure, or when the patient has angina at rest. The operative mortality for patients with no angina at rest is 5%, whereas with angina decubitus it is 59%. Late mortality is similarly related to the degree of angina. Six months to seven years after operation, 30 patients (75% of the original group) were still alive and 24 were working full time.

Tetanus Neonatorum.—According to a report in the *Canadian Medical Association Journal* (78:922, 1958) six cases of tetanus neonatorum occurred in a rural negro community in four years. In this community, normal birth takes place at home under the direction of a handy woman who usually looks after animals. These women have no formal training and treat the umbilical cord with daily dressings of soft paraffin dug from the container by finger and applied on gauze. In all but one of the cases listed death took place in spite of standard treatment with tetanus antitoxin, and in all but one common pathogenic bacteria were cultured from the umbilicus. It was difficult to decide on a dose of sedative that would adequately control tetanic spasms without dangerously depressing respiration. Antitoxin appeared to be useless.

Federation of Biological Societies.—Last year, the Canadian Physiological Society, the Pharmacological Society of Canada, the Canadian Association of Anatomists, and the Canadian Biochemical Society joined forces to form a Canadian Federation of Biological Societies. The first joint annual meeting of these societies was held in Kingston, Ontario, in June. Dr. R. Altschul of the University of Saskatchewan reported that nicotinamide is of no use in lowering the serum cholesterol level but that sodium nicotinate, much better tolerated than nicotinic acid, has this effect in short-term experiments. Long-term administration to patients will be the next investigational step. Beaton of the University of Toronto stated that anterior pituitary growth hormone has a direct effect on fat metabolism and that this effect may be interrelated with changes in protein metabolism. Acute pancreatitis is perpetuated by tryptic and lipasic autolytic processes. Beck and co-workers, of Montreal, have been searching for compounds which would inhibit this autolysis and might therefore be of therapeutic value in acute pancreatitis. They found that Hyamine 1622 (p-diisobutyl phenoxy ethoxy dimethyl benzyl ammonium chloride) diminishes the proteolytic activity of trypsin but does not inhibit chymotrypsin, pepsin, or lipase. Beveridge of Kingston, Ontario, produced evidence suggesting that the substance in corn oil responsible for lowering blood cholesterol levels was in the unsaponifiable matter and not in the unsaturated fatty acids. Brouillet of Montreal showed that there was no significant change in urinary aldosterone or 17-hydroxycorticosteroid excretion in patients given infusions of epinephrine or levarterenol.

Campbell and Chapman of the Food and Drug Laboratories in Ottawa have developed a method of rating foods which might be used as a basis for judging the validity of advertising claims. They propose a protein rating based on both quality and quantity of protein in the food. The food is fed as a sole source of protein at a level of 10% and a protein efficiency factor determined from the effect of the food on rat growth. The protein rating is obtained by multiplying the protein efficiency ratio by the weight of protein in a reasonable daily intake of food. A food with the rating of 40 or greater may be referred to as an "excellent dietary source of protein" and one with a rating of 20 to 39 as a "good dietary source of protein."

Hawkins of Halifax showed that alpha-tocopherol phosphate had an anticoagulant effect on the blood of dogs and rabbits and also an antilipemic effect. Kumar noted a tendency to high aldosterone excretion and low intracellular sodium values in normal pregnancy, with a tendency to high intracellular sodium and lower aldosterone values in preeclampsia. Lenoski of Manitoba induced hypocapnia by passive hyperventilation in flying personnel and showed that those persons whose performance was impaired during hypocapnia benefited significantly by administration of acetazolamide. Mazurkiewicz stated that chlorpromazine is capable of reducing the analgesic dose of morphine but does not retard development of tolerance to the latter. McCarter of Dalhousie University found that a single application of a carcinogenic hydrocarbon in a volatile solvent to the skin of a mouse could produce an effect that was virtually maximal when the period of exposure was less than one hour.

Raeside of Montreal found that the urinary estrogen was diminished in most but not all pregnant diabetic women and that when values were low this was associated with intrauterine death of the fetus. Rona of Montreal reported that rabbits given cholesterol dissolved in unsaturated fatty acids had a significantly higher cholesterol level and more marked atherosclerosis than rabbits given cholesterol dissolved in olive oil. Marc-Aurèle of Montreal studied two new diuretic agents, chlorothiazide and spirolactone. Spirolactone in oral doses of 150 mg. every four or six hours produced significant sodium diuresis with transient lowering of urinary potassium in patients with generalized edema. No side-effects were noted.

Bone-Marrow Homotransplantation for Leukemia.—Reports of work in which mice previously treated by intravenous injection of homologous bone marrow withstood whole body irradiation in doses approximating the 100% lethal dose, given for

mouse leukemia, have raised hopes that a similar form of treatment might be applied successfully in patients with leukemia. It would seem that the marrow of the irradiated animal is destroyed and the injected hematopoietic material repopulates the recipient's marrow sites. Meighan and Bean (*Canad. M. A. J.* 78:858, 1958) attempted this form of therapy in a patient whose chronic lymphoid leukemia had withstood all other forms of treatment. They obtained marrow aspirations from the patient's sister and administered the aspirate to the patient through the saphenous vein, introducing a 0.01-mm. steel wire mesh screen between the syringe and the cannula. On the day before this was done, the patient was given 700 r whole body radiation, with a treatment time of six hours. The total number of nucleated cells injected into the patient was about 4 billion. Death ensued five days later. In spite of the large dose of radiation given, primitive immature cells were still present in the patient's peripheral circulation, and the marrow still contained abundant lymphocytic material at the time of death. Despite a careful search, no evidence of a marrow take was found. In this case there may have been host rejection of the donor marrow, the dose of whole body radiation may have been too great or too small, and the amount of bone marrow injected may have been insufficient. There may have been a failure of donor marrow to pass the lung barrier, or the patient's general condition may have been so poor that he was unable to tolerate the procedure. In future application of this technique, an attempt should be made to remove the fat from the bone marrow.

Too Many Doctors in Canada?—A note in the *Canadian Medical Association Journal* for June 15 discussed two conflicting statements recently made about the present and projected needs for physicians in Canada. The Dominion Council of Health indicated a need for more physicians, while Dr. R. Struthers, a noted physician in academic and research fields, stated that apparently needs are being adequately met and that it is time to call a halt to the extension of Canadian medical schools. The present analysis pointed out the variable factors that should be taken into account. Thus, for example, the demand for services is in many ways directly related to population growth and age distribution. It appears that by 1975 Canadian requirements for physicians, if the present population-physician ratio is to be maintained, will be 54% greater than in 1955. The fact that this ratio has remained constant for so long is surprising in view of the many factors affecting it. The developing insurance mechanisms in Canada will certainly increase the existing demand and create a new demand for physicians. Furthermore as the income in Canada increases the public will be willing to appropriate a greater proportion of its income for medical services. The analyst suggested an increase in demand approximating 2.5% per year in the near future, rising to 3% per year on a long-term basis. This will mean a net increase of 400 new physicians each year. Another factor affecting calculations is retirement age. Data from the new Canadian Medical Retirement Savings Plan suggest that many physicians are now planning to retire at ages 55, 60, or at the latest 65. The present retirement age averages 71 years. The analysis suggested a near future requirement for new physicians equal to 6% of the present physician population, rising in 15 to 20 years to 7%. Demands are being met not by Canadian medical schools but by an unprecedented rate of immigration. The present situation would suggest that a figure of 500 immigrant physicians each year will be needed to make up the deficit.

Retirement Savings Plan.—The Canadian Medical Retirement Savings Plan, sponsored and administered by the Canadian Medical Association, is in a healthy state. Total contributions from physicians to date amount to over 2 million dollars; 38% of this went at the desire of the contributors into the insured annuity fund and 62% into the common stock fund. The basic outlines of the plan are simple and flexible. Participation enables a physician to obtain tax relief now on the savings he invests to provide retirement income. The physician may specify his percentage allocation to the common stock fund, chosen by a trusteeship committee which has a nucleus in Toronto and corresponding members in the provinces and has spread its stock purchases over a wide range including banks, distilleries and breweries, building products, chain stores, aluminum, glass, paper, power, and telephone companies, oil, and insurance. On the other hand the physician may elect to put most of his savings into an insured annuity fund, where there is a guaranteed rate of 3.5% per annum, presently being exceeded.

INDIA

Intracardiac Operations at Normal Temperature.—Pritam Das (*Journal of the Indian Medical Association*, vol. 30, June 16, 1958) reported a study on dogs which was undertaken to assess the possibility of intracardiac operations under direct vision at normal temperature. It was found that the heart could not tolerate occlusion of the superior and inferior venae cavae and the vena azygos for more than three to five minutes. If, however, blood was allowed to flow through the azygos vein while the two venae cavae were occluded, the right atrium could then be opened widely without loss of blood. The blood from this chamber was sucked out completely and the various landmarks visualized. Intracardiac operations were therefore tried under these circumstances, when the two venae cavae were occluded for 10 to 15 minutes; 17 operations were

performed on dogs, in 14 of which the right atrium was explored, while in 3 the right ventricle was opened and the orifice of the pulmonary trunk dilated. Changes in the pulse, blood pressure, and electrocardiogram were recorded and the safety of the procedure assessed. The right atrium could never be made completely dry because of blood flow from the azygos vein and the coronary sinus but such landmarks as the atrioventricular orifice, fossa ovalis, and orifices of the superior and inferior venae cavae could be visualized.

The occlusion of the superior vena cava alone did not affect the rate or rhythm of the heart, but as soon as the inferior vena cava was occluded marked changes were seen. The heart rate became slow, sometimes following an initial quickening. In only one case it did not become slow, while in two others it remained a little quicker than the initial rate during the whole period of occlusion. The release of veins caused a sudden rise almost to the normal level. Irregularities of rhythm appeared when stray sutures were passed in the wall of the atrium or when the finger was placed in the tricuspid ring and orifice of the superior vena cava. On release of the inferior vena cava, there was distention of the atrium and ventricle, and irregularities such as extrasystole and missing of the beat appeared. In all cases the heart was moderately distended and blue. In six it was overdistended and blue, leading to ballooning of the heart.

The period immediately after release of the inferior vena cava was the most dangerous due to production of overdistention of the chambers. Ventricular fibrillation was not a frequent occurrence in this procedure. Auricular fibrillation was more common but resolved itself spontaneously. No significant changes were observed in the electrocardiogram during the period of occlusion. The blood pressure showed a gradual fall when the superior vena cava was occluded, while occlusion of the inferior vena cava led to a sudden and marked fall in blood pressure. It was maintained at a low level during the period of occlusion and showed little change when the superior vena cava was released, but with release of the inferior vena cava it showed a sudden rise and reached a level higher than the initial. To prevent air embolism, the atrial incision was sutured from below upward, and, while the uppermost part of the incision was still unsutured, the superior vena cava was released, thus filling the atrium with blood which expelled the air through the upper unsutured part of the incision. A small amount of blood was allowed to escape to ensure complete elimination of air.

Of the 17 animals, 5 died on the operating table, 4 of them due to ballooning of the heart; one died two days later with signs suggestive of decerebrate rigidity, but histological examination of the pons and midbrain in this case showed no abnormality; and 11 dogs survived, one of which showed signs of cerebral damage while the others were normal physically and mentally. Thus the study showed that intracardiac operations are possible at normal temperature and the technique can be employed for intra-atrial operations such as closing of septal defects, tricuspid valvotomy, and for incision or dilatation of the pulmonary valve through the right ventricle. The main risks are ballooning of the heart, which is due to sudden rush of blood from the inferior vena cava, and deficient oxygenation of blood during the period of occlusion. These may be minimized by gradual release of the inferior vena cava and full inflation of the lungs. Another drawback is the occurrence of cerebral lesions which may be prevented if the period of occlusion is kept below 10 minutes.

Effect of Surgery on Electrophoretic Pattern.—P. N. Satsangi and co-workers (*Indian Journal of Surgery*, vol. 20, April, 1958) studied the changes in the serum protein patterns in 18 patients undergoing surgery in relation to their preoperative general condition, convalescence, and wound healing. The patients were classified as normal, average, and poor depending on their nutritional status. The preoperative serum protein levels in most of them were within normal limits in spite of variations in the general nutritional state. The serum albumin level, however, reflected the nutritional state of the patient, a level below 30% indicating poor general health. Patients who were normal or average in health and had a smooth convalescence and good healing showed a fall in the albumin level and an increase in alpha, beta, and gamma globulin after operation. In patients with a poor general nutritional status, even when the wound healing was good and convalescence uneventful, there was an increase in serum albumin and beta globulin, varying changes in alpha globulin, and a decrease in gamma globulin. The beta globulin showed a rise after operation in all patients when wound healing was good and convalescence smooth, but if wound healing was delayed or convalescence not smooth the level of beta globulin fell. Most patients showed a fall in the total serum proteins in the postoperative period.

Tuberculosis Survey.—A National Pulmonary Tuberculosis Survey was made by the Indian Council of Medical Research. Its main object was to estimate the incidence of pulmonary tuberculosis, to determine from this the extent of the problem, and to devise antituberculosis measures. Previous surveys were so limited in scope that they could not provide a definite picture of the whole country. This survey covered six zones and only those centers that had mass miniature radiography. The sample survey covered in each zone 30 villages, 6 medium-size towns, and 25 to 40 blocks of a city. Villages situated near roads which could be negotiated by heavy mobile x-ray and generator vans were surveyed. Nearly 90% of the population of the zones

were x-rayed. Children below 5 years of age were excluded. Field teams consisting of about 20 workers often worked early in the morning and late in the evening as most people were available for examination only at these times. Films of the chest were made by a mass miniature radiography set and a schedule incorporating important and relevant information was filled in for each person. Adequate samples from all zones were examined and compared. Finally six radiologists, including three senior radiologists, gave their independent findings.

It was observed that the bacillary rate per 1,000 persons varied from 1 to 11 in different areas and the number of active and probably active cases from 7 to 30 per 1,000. The morbidity among women was less than that among men. Rates for both men and women showed an increase with age. The rate of increase with age for women was much less than that for men. These were the tentative findings. The results suggested that the incidence of the disease was not diminishing in cities and industrial areas. It had increased in small towns and villages which had previously been comparatively free from tuberculosis and was most marked in villages where it was previously about 0.3%. Here the incidence was approaching that of the cities. Preliminary results indicated that 2% of the country's population was affected by the disease.

The Drug Industry.—A number of steps have been taken by the government to develop the pharmaceutical industry. Existing manufacturers were encouraged to undertake production from intermediates near to basic chemicals. New manufacturers were permitted to enter the field on the basis of their undertaking production of basic drugs as soon as possible in accordance with the programs approved by the government. A proposal for the establishment of a plant to meet the requirements of intermediates, which is under consideration, is expected to be implemented during the Second Five-Year Plan period. Based on expert studies undertaken by suitable agencies, proposals for the establishment of a company for the manufacture of synthetic drugs and additional quantities of antibiotics from basic stages are being considered. There has been a notable increase in the production of penicillin, isoniazid, PAS, and other synthetic drugs. Licenses have also been given for the production of such essential products as vitamin A and cortisone. The production of penicillin in 1957 was more than 1.5 times as great as in 1956, that of isoniazid was more than 3 times, and that of PAS over 10 times as great. The amount of antidysentery drugs produced in 1957 was more than double that of the previous year. The production of insecticides and sulfonamides also increased. The Development Council for Pharmaceuticals and Drugs was reconstituted early in 1957. The council's main functions are to suggest norms of efficiency, secure fuller use of installed capacity, obtain maximum production, improve quality, and promote better marketing facilities. The council also recommends targets of production and coordinates production programs.

Cerebral Infarction.—P. L. Deshmukh (*Journal of the Indian Medical Association*, vol. 30, June 1, 1958) stated that the precipitating factor in the production of coma following cerebral infarction is the extensive edema and the resulting ischemia of the brain in the affected area. Attempts have been made to improve the cerebral circulation in this region by using vasodilators such as tolazoline, aminophylline, nicotinic acid, papaverine, and by blocking the stellate ganglion. The author did not get good results with vasodilators. Results with stellate ganglion block though encouraging were not impressive. Cortisone was then tried on four patients with cerebral infarction. The age of these patients varied between 52 to 74 years. Treatment with cortisone was started 48 hours after coma had set in and was by then fairly deep. Supportive treatment, such as feeding with a nasal tube and attention to bowels and bladder, was maintained during treatment with cortisone. The drug was given subcutaneously in doses of 100 mg. three times a day for the first three days. The dose was then reduced to 100 mg. twice a day for the next two days, 50 mg. twice a day for three days, and 25 mg. twice a day for three days. Later 25 mg. was given twice a day by mouth for about a fortnight. A low salt regimen was observed during this period and 1 to 2 Gm. of potassium chloride per day was given by mouth. A dramatic improvement was seen in 24 hours after commencement of treatment. Consciousness returned gradually and speech showed signs of returning after three days. There was a general sense of well-being. There was reduction of pain in the affected extremities on passive movement and improvement in the range of motion was noticed. The beneficial effect of cortisone in this condition is believed to be due to its antiexudative action which helps in controlling cerebral edema and its property of inhibiting mesenchymal tissue reaction which minimizes irreversible neurological damage.

Liver Damage in Malaria.—Ray and Sharma (*Indian Journal of Medical Research*, vol. 46, May, 1958) stated that earlier experiments had shown that in fatal cases of falciparum malaria in man and knowlesi malaria in monkeys, the liver parenchyma showed swelling, fatty changes, and centrilobular necrosis. There was some correlation between the hepatic lesions and the intensity of infection, especially in respect to necrotic changes. The central hepatic veins showed dilatation and sometimes rupture when the necrotic changes were advanced, while the sinusoids were widely dilated and contained areas of packing with enormously swollen

Kupffer cells, pigment, cell debris, and blood elements which would block the free flow of blood from portal to hepatic veins. There was some indirect evidence of a constrictor mechanism in the hepatic veins controlled by stimuli arising in higher nervous centers and transmitted through the sympathetic system. To get further proof of such a mechanism, the effects of knowlesi malaria on the liver of monkeys which were subjected to sympathectomy were observed and the results were compared to those obtained in another group of infected animals not previously subjected to such an operation.

Thus bilateral sympathectomy between the 6th and 12th thoracic levels was performed on 11 monkeys and 1 monkey was subjected to a standard dose of 5×10^{6} parasitized cells from donor monkeys infected with Plasmodium knowlesi. Ten other monkeys similarly infected but not operated on served as controls. The course of infection was more or less the same in all monkeys and all of them died in about five days. Liver biopsy specimens taken just before death showed changes in liver parenchyma in the controls and in the monkey subjected to unilateral sympathectomy which were proportional to the intensity of infection and consisted of fatty changes and necrosis restricted to cells around dilated or even ruptured central hepatic veins. In monkeys with bilateral sympathectomy, these necrotic changes were completely absent and the central hepatic veins were mostly normal in appearance and fatty changes were slight or moderate. Thus bilateral sympathectomy was in some way responsible for preventing the necrosis of the hepatic parenchyma. The changes in sinusoids and their packing with cells, pigments, etc. were the same in all monkeys. This suggested that a sphincter mechanism in the hepatic venous tree was probably responsible for the changes in the central hepatic veins which in turn led to the necrotic changes in cells surrounding the vein and this mechanism was controlled by a center perhaps in the hypothalamus transmitting impulses via the sympathetic nerves. The nature of such a stimulus could be anoxemia or possibly a toxin.

Liver Function in Uremia.—H. Singh (*Journal of the Indian Medical Association*, vol. 30, June 16, 1958) subjected 25 patients with uremia to liver function tests with a view to assessing the liver damage, if any, that may be caused by the associated biochemical disturbances. Patients with any past or present history suggestive of liver disease were excluded. The tests used were Van den Bergh's test; estimation of serum bilirubin, total proteins, serum albumin, and serum globulin; thymol turbidity; cephalin cholesterol and other flocculation test; and alkaline phosphatase estimation. The total serum proteins were found to be within normal limits, the serum albumin was subnormal in three and raised in one patient, and the serum globulin was raised in eight patients. The thymol turbidity and flocculation tests were within normal limits. The cephalin cholesterol flocculation test gave abnormal values in two patients. The serum alkaline phosphatase was raised in 11 patients but this may have been due to the renal disease and may not indicate liver dysfunction. The serum bilirubin was less than 1 mg. per 100 ml. in 24 patients.

Primary Hepatic Carcinoma.—M. D. Divekar (*Journal of Postgraduate Medicine*, vol. 4, April, 1958) reviewed 33 autopsy reports of patients dying of primary carcinoma of the liver; 31 of the patients were men and 2 were women. An overwhelming preponderance of men between 41 and 60 years was noticed. Although infantile cirrhosis is common in India, no case of primary carcinoma of the liver in childhood proved at autopsy was reported in this series. Nausea, vomiting, and abdominal pain were the commonest complaints; 67% of the patients had had pain in the right hypochondrium as the initial symptom. Hematemesis occurred in five patients and proved fatal in two. Jaundice varied between a mild icteric tinge to yellow-green. Ascites was detected clinically in only 22 patients. No malignant cells were seen in the ascitic fluid. The amount of the fluid found at autopsy varied between 500 and 3,000 ml. Fourteen patients had fever, in two of whom it was the initial symptom leading to the erroneous diagnosis of an amebic abscess. The liver was palpable in 20 patients, the lump simulating a gastric neoplasm in one. Moderate enlargement of spleen was seen in 13, mental changes in 2, and 14 became drowsy in the terminal stage and died in a coma. At autopsy only 16 cases showed evidence of hepatic cirrhosis. During the period of the study, hepatic cirrhosis was recorded in about 340 autopsies. Almost all the patients were, however, undernourished. Spread of malignancy to local structures such as the stomach, gallbladder, colon, and diaphragm was seen in some patients, the commonest structure to be involved being the diaphragm. Abdominal lymph nodes were invaded by metastases in 22 patients and mediastinal in 3. There was no evidence of distant metastases in 25, but in others metastases in the lungs, skull, vertebrae, urinary bladder, and adrenals were seen. The portal vein was involved in six patients, the splenic vein in two, and the inferior vena cava in three. In addition, four had pulmonary tuberculosis, three had chronic pancreatitis, and one had cholecystitis and cholelithiasis.

Effect of Diet on Serum Cholesterol.—Gopalan and Ramanathan (*Indian Journal of Medical Research*, vol. 46, May, 1958) stated that the level of fat in the diet may influence serum cholesterol concentration to a certain extent and this in turn is concerned in the pathogenesis of coronary arteriosclerosis. The authors studied the effects of ingestion of high levels of different types of fat on serum cholesterol concentration in human volun-

teers and monkeys. The effects of caloric and protein restriction on serum cholesterol concentration were also studied in monkeys. The effect of ingestion of fat on the level of serum cholesterol varied with different types of fat. Thus while butter and hydrogenated vegetable fat caused a sustained increase in serum cholesterol, sesame oil did not have this effect. This difference, although not fully explained, may be due to different factors such as differences in sitosterol content, in the essential fatty acid content, and in the content of total unsaturated fatty acids. The content of essential fatty acids in sesame oil was found to be eight times higher than that in the hydrogenated vegetable fat used in the experiment.

The monkeys were observed for a period of 49 weeks. The rise in serum cholesterol after feeding of butter or hydrogenated vegetable fat was maintained throughout this period. There was no progressive increase in serum cholesterol and the sharp rise in its level noted in the beginning was not sustained at the same high level, thus indicating the ability of the organism to adapt itself to some extent to the high fat intake. Diet deficient in proteins and/or calories caused reduction in serum cholesterol concentration. Protein deficiency alone in the absence of caloric deficiency reduced serum cholesterol, but the protein deficiency induced in these experiments was severe. Among malnourished persons, the caloric rather than the protein deficiency may be important in reducing the serum cholesterol.

Effect of Fats on Coagulation.—Ramanathan and Gopalan (*Indian Journal of Medical Research*, vol. 46, May, 1958) stated that the development of coronary disease may depend on other factors than atherosclerosis, such as those influencing blood coagulation. They studied the effects of different lipids on whole blood clotting time and prothrombin time in human volunteers. The clotting time, (Russell's viper) venom time, prothrombin time, circulation time, and serum cholesterol level were studied. After an intake of 85 Gm. of butter fat, the mean clotting time and venom time in 30 volunteers were lower than the fasting values and the difference was statistically significant but the prothrombin time, circulation time, and serum cholesterol level were unaffected. Other fats studied in the same way were hydrogenated vegetable fat and coconut oil which did not influence venom time, while in some the clotting time was reduced. To find out whether these changes were specifically due to the fat content of the diet, the same volunteers were given an isocaloric low fat diet with a fat content of only 6 Gm. a day. No change in clotting time or venom time was noticed, thus suggesting that fat plays a specific role in these changes. Butter, hydrogenated vegetable fat, and coconut oil could be placed in descending order with regard to their effect on whole blood clotting time. The different results obtained with different fats cannot be explained satisfactorily but they are not due to differences with regard to the degree of saturation or the chain length of their component fatty acids.

NEW ZEALAND

Hemophiliac in Hospital 263 Times.—A hemophiliac of Lower Hutt has been admitted to hospitals 263 times. This is probably a record. Hemophiliacs are hoping for the success of trials with antihemophilic globulins which would reduce the risks of fatal bleeding when dental extractions or minor operations are needed.

Drugs for Lighthouse Personnel.—Owing to the isolation of lighthouses, physicians in the National Health Service may in the future claim remuneration for telephone consultations in respect of medical services afforded to lighthouse personnel. The Minister of Health has also approved an unprecedented scheme whereby the usual medical attendant of lighthouse personnel may prescribe in advance medicines which he anticipates the particular family involved may expect to need. The medicine is to be clearly marked as to name and is to be retained at the lighthouse to be used on telephoned instructions from the physician on some future occasion. When it is so used, the physician should write out another prescription and have the medicine sent out to the lighthouse as a replacement. The advantage is that patients will be able to commence treatment more quickly than has been the case. The lighthouse keeper will speak to the patient's physician by telephone, describe the symptoms, and obtain instruction as to the medicines to be used. Lighthouse personnel will not be allowed to prescribe for themselves. A scheme of this nature should afford lighthouse occupants a greater sense of security than they had had. Physicians approached by lighthouse patients for drugs are now authorized to write out the necessary prescriptions in advance and to have the medicine dispatched to the lighthouse in readiness for future use.

UNITED KINGDOM

Air Pollution and Respiratory Disease.—Fairbairn and Reid (*Brit. J. Prev. & Social Med.* 12:94, 1958) compared the sickness absence data of outdoor workers, such as postmen, with indoor male office workers and between men and women doing the same work under the same environmental conditions. Attack rates from bronchitis, pneumonia, influenza, pulmonary tuberculosis, and malignant neoplasms of the respiratory tract were calculated in these groups for 37 urban and rural areas. The rates for death and permanent disability from chronic bronchitis and the total time lost through sickness were also calculated for the same areas.

Mortality and morbidity were correlated with the frequency of fog, density of population, and percentage of persons living more than two to a room. It was found that apart from general influences affecting sickness absence, such as group morale and the menopause, environmental factors played an important part in influencing the distribution of respiratory disease in the populations surveyed. Severe bronchitis causing permanent disability and death among postmen exposed by their work to atmospheric conditions was definitely related to the frequency of fog and the level of air pollution. These rates in a group whose work and pay are uniform throughout the country ran parallel to local bronchitis death rates in middle age. Variations of the latter were not related to population density or to domestic overcrowding and might thus result from a specific effect of air pollution on respiratory disease.

A high incidence of influenza morbidity and tuberculosis mortality was observed in areas with much domestic overcrowding. This emphasizes the importance of cross infection as a factor in the home. The survey showed an excessive urban mortality from pneumonia. This and the increased urban mortality from tuberculosis might be due to increased opportunities for infection. The investigation brought out a singular association between lung cancer mortality and population density and not air pollution. The data suggested that urban-rural differences in smoking habits might have affected the risk of death from such causes of respiratory mortality as lung cancer, pulmonary tuberculosis, and pneumonia.

Intravenous Injection of Diphtheria Antitoxin.—Diphtheria antitoxin is usually administered intramuscularly immediately after a clinical diagnosis of diphtheria is made, the intravenous route being reserved for severe cases. Tasman and co-workers (*Lancet* **1**:1299, 1958) stated that the object of giving the antitoxin is to bring the patient's level of circulating antitoxin up to a high titer as soon as possible. If it is given intravenously the maximum titer is reached almost immediately, whereas absorption of antitoxin injected intramuscularly requires four to six days. The authors showed that antitoxin injected intravenously is not excreted any more rapidly than if given intramuscularly. Shortly after the intravenous injection of antitoxin, some of it begins to be excreted through saliva, in which it neutralizes the diphtheria toxin from the tonsils and the walls of the pharynx. Hence from this moment no more toxin will be absorbed from the saliva, provided the dose of antitoxin is large enough. Experiments on guinea pigs treated with diphtheria toxin showed that heart lesions and post-diphtheritic paralyses are fewer and the mortality is lower if the antitoxin is given intravenously rather than intramuscularly. The authors concluded that with due observance of such necessary precautions as a skin test for hypersensitivity, diphtheria antitoxin should always be given intravenously, even in mild cases.

Meperidine in Minor Surgery.—C. E. P. Markby (*British Medical Journal*, June 14, 1958) gave meperidine intravenously to a series of 400 patients with a wide variety of conditions requiring minor operations. This had the advantage that the patients could be treated as outpatients, with a consequent diminution of pressure on hospital beds. He has used it most for sigmoidoscopy and has found it eminently suitable in the aged. Without premedication, patients received a dose of 75 mg. of meperidine intravenously. It was particularly useful in urethral instrumentation, in particular for dilation. A satisfactory degree of sphincter relaxation was obtained, and patients suffered a minimum of discomfort. When combined with local anesthetics it acted synergistically and appeared to prolong their action, when an incision had to be made. It had a more limited usefulness for gastroscopy and was not effective in controlling pain arising from biliary colic. When given in conjunction with general anesthesia it might cause respiratory depression, but side-effects were few, and no patient treated in this manner showed anxiety. Patients were able to return home shortly after their examination or treatment.

Stillbirths, Neonatal Deaths, and Congenital Malformation.—Anderson and co-workers (*Lancet* **1**:1304, 1958) reported that in Scotland primigravidas living in poor social circumstances, particularly in industrial communities, have a higher risk than any other group of pregnant women of fetal death due to malformation of the central nervous system. A distinct social class gradient in women of all parities was observed in stillbirths due to anencephalia; as social status falls there is a steady increase in the incidence of anencephalic stillbirths. This is less noticeable in other malformations of the central nervous system and is not observed at all in other malformations at birth. The authors also found a relatively high incidence of anencephalia and other malformations of the central nervous system in young primigravidas, especially in those aged less than 20. Few of these came from the upper social class. In the lower social classes it was the undersized women, stunted by their environment, who were found to have the highest incidence of stillbirth and infant death due to malformation of the central nervous system. Speculating on the possible environmental causes of congenital malformations, malnutrition is considered a possible factor. At most any such factor probably acts secondarily by bringing out latent tendencies. If diet is a factor, the diet in pregnancy is of little help, as the neural canal of the embryo is closed by the end of the fourth week, when any damage has already been done.

MISCELLANY

STAPHYLOCOCCUS INFECTIONS IN HOSPITALS

The American Hospital Association has distributed the following statement to administrators and chiefs of staff in all hospitals.

Knowledge of Current Situation

1. It is clear that throughout the world, in spite of the enormous success of antibiotics (and, as will be mentioned below, to some extent because of this success) there remains an important problem of infections, a problem of special significance for hospitals. This report is concerned with such infections, particularly those caused by the coagulase-producing strains of staphylococcus aureus hemolyticus. The most obvious examples are impetigo and more severe infections in children, puerperal mastitis in recently delivered women, burn and postoperative wound infections, and pneumonia in debilitated patients. The staphylococcus may also be responsible for osteomyelitis, meningitis, septicemias, empyemas, boils and abscesses, otitis media, paronychiae, etc.

Disease-producing staphylococci frequently implant in the nasopharynx without overt disease, thus producing carriers. Indeed, the staphylococcus carrier-rate is a good index of the level of contamination of the environment.

2. Many hospitals have a serious problem with staphylococcus infections, and all hospitals have a potential problem. Information is inadequate as to the incidence of staphylococcus infections which are acquired in hospitals, but there is evidence that the number of such infections is increasing.

3. There appear to be innumerable strains of staphylococcus capable of producing infections. Many of these staphylococci are susceptible to antibiotics. Some are not. Infections with antibiotic-resistant staphylococci constitute the main difficulty. Hospitals are clearly the reservoir of most antibiotic-resistant strains. Strains from the community at large are predominantly sensitive to antibiotics. The strains carried by patients on admission are less frequently resistant than strains which are acquired in hospitals. Patients who acquire these infections in the hospital are potential spreaders of resistant strains to the community after discharge. One of the major factors in the current situation is the widespread use of antibiotics which eliminates susceptible strains of staphylococcus and leaves uncontrolled the resistant strains. (It is not known whether resistant strains of this organism actually acquire resistance after exposure to the antibiotics, or are resistant to begin with and are simply unmasked by the suppression of susceptible strains—although the latter is thought to be the case. From a practical point of view it does not matter which theory is correct.)

4. Certain factors frequently found in hospitalization appear to make patients more likely to acquire such staphylococcus infections: (*a*) routine indiscriminate use of antibiotics, especially for "prophylaxis"; (*b*) long hospital stay; (*c*) contact, direct and indirect, with infected hospital patients, staff members or personnel; (*d*) crowding and inadequacy of facilities; (*e*) prolonged operative procedures; (*f*) prolonged use of continuous parenteral therapy through venipunctures or indwelling plastic tubing.

5. Certain factors in the host (patient) appear to increase susceptibility to infection: (*a*) treatment with adrenocortical steroids; (*b*) physical debility; (*c*) chronic disease; (*d*) prematurity; (*e*) diabetes; (*f*) bed sores; (*g*) open wounds or breaks in the skin; (*h*) chronic pulmonary disease.

6. Danger of infection seems to be especially great from direct exposure to people infected with the staphylococcus, although exposure to the same organisms in or on contaminated equipment, supplies, dressings, air, dust, wall or floor surfaces, linens, etc., may be equally as important. The physician, nurse or other attendant with a boil, paronychia, abscess, or nasopharyngeal infection with a virulent strain is particularly hazardous.

Recommendations

I. All hospitals should establish Committees on Infections, to devote particular attention to infections which are acquired in hospitals so they may be reduced to the lowest possible minimum. (The Joint Commission on Accreditation of Hospitals is being asked to consider the establishment of a Committee on Infections as a major factor in the accreditation of a hospital. Bulletin 17 of the Joint Commission contains recommendations on the subject.)

A. It is suggested that the Committee on Infections include, where possible, a bacteriologist, a pediatrician, a surgeon, an internist, a nurse, and a hospital administrator. The local health officer should be urged to serve as a consultant to the committee. The committee should report periodically to the executive committee of the medical staff.

B. The functions of the Committee on Infections should include at least the following:

1. To establish a system of reporting infections among patients and personnel, such a system being essential to a proper understanding of infections which are acquired in hospitals.

This bulletin was prepared by the American Hospital Association Council on Professional Practice's Committee on Infections Within Hospitals consisting of Dean A. Clark, M.D., chairman; William A. Altemeier, M.D.; C. P. Cardwell Jr.; James P. Dixon Jr., M.D.; Maxwell Finland, M.D.; Horace L. Hodes, M.D.; Martha Johnson, R.N.; and Alexander D. Langmuir, M.D., in consultation with Kenneth B. Babcock, M.D., of the Joint Commission on Accreditation of Hospitals; William H. Stewart, M.D., of the Public Health Service; and others.

The committee should have access to all reports of infections anywhere in the hospital.

2. To keep records of infections as a basis for the study of their sources and for recommendations regarding remedial measures.
3. To distinguish to the best of its ability between infections acquired in the hospital and those acquired outside.
4. To review the hospital's bacteriological services to make sure that such services are of high quality and are accessible either in the hospital itself or in an outside laboratory. Bacteriophage typing, if not available in the hospital, may be sought, as needed, through official local and state health agencies.
5. To review aseptic techniques employed in operating rooms, delivery rooms, nurseries, and in the treatment of all patients with infections and, if indicated, to recommend methods to improve these techniques and their enforcement.
6. To make vigorous efforts to reduce to the minimum consistent with adequate patient care:
   (a) Use of antibiotics, especially as "prophylaxis" in clean, elective surgery.
   (b) Treatment with adrenocortical steroids.
7. To undertake an educational program to convince medical staff and hospital employees of the importance of reporting to responsible authorities when they have skin infections, boils, acute upper respiratory infections, and the like.
8. To establish techniques for discovering infections which do not become manifest until after discharge from the hospital, it being known that such infections are often overlooked because they may not be apparent until several weeks after the patient has left the hospital. Two approaches to discovering such infections are suggested:
   (a) An attempt to trace the source of any infection with which a patient may be admitted. For example, if an infant is admitted with staphylococcal pneumonia or a recently delivered mother with mastitis, the hospital where delivery occurred should be determined and informed of the infection so that it can seek possible sources of infection.
   (b) Periodic telephone polls on a random sample of discharged patients (particularly recently delivered mothers, newborns, and post-operative patients) to ascertain their state of health and, in case of any indication of infection, to follow them up. Such surveys have proved quite simple and quite valuable. A detailed account of the method is given by Ravenholt and others in the October, 1956, issue of the *American Journal of Public Health*.

II. Hospital administration should undertake the following measures to assist in the control of infections:

A. Diligent maintenance of the general cleanliness of all areas in the hospital, not simply in those associated with operating rooms, delivery rooms, and nurseries. Other possible sources, such as dust, air pollution (special attention should be given to ventilating and air-conditioning systems and their filters), and floors must also be considered as potentially important factors in the spread of infection. There should be regular inspections of the hospital for general cleanliness.

B. Special studies among staff and personnel to uncover silent carriers of staphylococcus, especially in epidemic situations accompanied by repeated cases traceable to the same organism.

C. Appropriate measures for the treatment of all carriers who persistently show heavy growth of epidemic strains of staphyloccoccus in nasopharyngeal cultures or who are identified by epidemiological evidence.

D. Transfer of such carriers and personnel with skin infections, boils, acute upper respiratory infections, and the like from locations such as operating rooms, delivery rooms, food-handling positions, and nurseries to other duty stations in the hospital. Usually such transfers have proved to be sufficient to control the problem, but occasionally leave of absence for a persistent carrier has been necessary.

III. Hospitals should initiate or participate in community programs to control infection through cooperation with other hospitals, local medical societies, local health departments, and other groups.

General Comment

1. Occasionally, an entire hospital, a whole community, or a large area seems to become subject to an epidemic strain of staphylococcus. Why this occurs is not known. Its occurrence, however, points up the need for more general recognition and study of staphylococcus infections.

2. Among the agencies from which consultation and assistance concerning infection problems may be sought are the following:

   (a) The American Hospital Association, the American College of Surgeons, and the American Academy of Pediatrics (especially for newborn infants) which will furnish upon request the names of suitable consultants.
   (b) Local and state health departments which, in many instances, have experts on their staffs.

(c) The Communicable Disease Center of the U. S. Public Health Service, Atlanta, Ga., whose assistance may be obtained through local and state health departments.

3. Valuable background information and discussion about the infection problem can be found in:

(a) Conference on staphylococcal infections (Symposium, *J. A. M. A.* **166**:1177-1203 [March 8] 1958, editorial, p. 1205).

(b) Observations relative to the nature and control of epidemic staphylococcal disease (F. H. Wentworth and others, *Am. J. Pub. Health* **48**:287-98 [March] 1958).

(c) New York (State) Department of Health Guide for the prevention and control of infections in hospitals, Albany, 56 pp., illust., 1957.

(d) New York Academy of Science: Staphylococcal Infections: Symposium (The New York Academy, 1956, illust., tables; *Ann. New York Acad. Sc.* **65**:57-246).

(e) The problem of postoperative wound infection and its significance (W. A. Altemeier, *Ann. Surg.* **147**:770, 1958).

MEDICAL FILM REVIEWS

First Aid for Aircrew: 16 mm., color, sound, showing time 27 minutes. Produced in 1956 by the National Film Board of Canada for the Royal Canadian Air Force. Procurable on purchase ($240) from National Film Board of Canada, 680 Fifth Ave., New York 19, or on rental ($12) from Contemporary Films, 267 W. 25th St., New York 1.

This training film was produced for specialized groups, such as civil defense, armed forces, fire, and police personnel, in order to show the application of the five basic rules of first aid in emergencies and in the period of waiting for rescue and medical aid. It dramatically reenacts a plane crash and graphically shows how one crew member applied these rules in treating his seriously injured comrades. The film shows how he makes his preliminary examination first and then takes care of those who need priority treatment. The wound portrayal is excellent. It is a well done film and is recommended for any group being taught first aid measures.

Control of Severe Pain: 16 mm., color, sound, showing time 25 minutes. Produced in 1956 by Norman P. Schenker, M.D., Research and Scientific Films, Inc., New York, for and procurable on loan from Hoffman-LaRoche, Inc., Nutley 10, N. J.

This film presents in an authoritative fashion the different types of pain and the action of levorphanol tartrate as compared to that of other analgesic agents, including codeine, meperidine hydrochloride, alphaprodine hydrochloride, and, particularly, morphine. The effects of these agents regarding analgesic potency (determined by the Hardy-Wolf technique), dosage, and duration of action are well documented by animal experiments. The respiratory depression following use of these analgesic agents is emphasized, and the antagonistic effects of levallorphan on the respiratory depression caused by levorphanol is shown. Effects on gastrointestinal motility, as demonstrated by fluoroscopy of the dog, are presented in rather great detail. Patients suffering from different types of pain are presented. The clinical presentation is well correlated to the animal experiments. Photography and narration are excellent. The film can be highly recommended for presentation to all members of the health professions.

Method in Our Mildness: 16 mm., color, sound, showing time 16 minutes. Produced in 1957 by the Research and Development Department, Photographic Laboratories, Procter and Gamble Co. Procurable on loan from the Procter and Gamble Co., Cincinnati 17.

The purpose of this film is to illustrate a program of biological testing to assure the safety of household washing products. Some of the procedures described with use of animals are acute and subacute toxicity tests, eye irritation tests, and percutaneous toxicity tests. Tests made on human subjects include simple patch tests for primary irritancy, repeated patch tests for sensitization, hand and arm immersion tests, and clinical (home-use) tests for general effect on the skin. The method of scientific testing shown is interesting, and it is represented so generally that the product could be replaced by any other product. The commercial features of the film are in the background. This well done film is recommended for senior medical students, particularly those in allergy classes.

First Aid: Parts I and II: 16 mm., color, sound, showing time 14 minutes each. Cleared for television. Produced in 1958 by Washington Video Productions, Inc., for the Crown-Zellerbach Foundation. Procurable on loan from American National Red Cross, 18th St. and "E" St., N. W., Washington 13, or local Red Cross chapters.

These two films cover the basic lifesaving and related skills taught in the standard course presented in the "Red Cross First Aid Textbook." It is not intended to replace actual training, but it does acquaint viewers with the same techniques taught in the standard course. The basic skills include bandages and dressings; artificial respiration; shock; burns; control of bleeding; poison; injuries to bones, joints, and muscles; and common emergencies (heart attacks, epileptic seizures, and fainting). The dramatic stage is set by the illustration of accidents, and then the proper methods of first aid called for by the particular emergency are demonstrated. These are basic orientation films and are not intended to go into the subject of first aid extensively. However, in all the situations depicted, it should be stated clearly that medical attention or emergency hospital care is imperative. The presentation is good and the films are recommended for any group interested in first aid, beginning with the high school level.

MEDICAL LITERATURE ABSTRACTS

INTERNAL MEDICINE

Isolated Aortic Stenosis—The Late Prognosis. K. H. Olesen and E. Warburg. Acta med. scandinav. **160:** 437-446 (No. 6) 1958 (In English) [Stockholm].

This paper presents the results of a long-term follow-up of a series of 42 patients with isolated aortic stenosis. The follow-up, which aimed at obtaining information about the natural history of aortic stenosis, was carried out after periods ranging from 6 to 23 years. The clinical diagnosis of isolated aortic stenosis was based not only on the classical signs—a loud and rough aortic systolic murmur transmitted to the neck arteries, aortic thrill, anacrotic pulse, and absent or diminished aortic second sound—but was made also in cases which in the absence of the additional signs presented a loud and rough aortic systolic murmur combined with roentgenologic enlargement of the heart and/or isoelectric or negative T_1 wave or left axis deviation. Patients who also had aortic insufficiency or in whom aortic stenosis was combined with mitral stenosis were not included in this study.

The 42 patients included 31 men and 11 women, of an average age of 52.9 years at the first observation. There was a history of rheumatic fever in 14 patients. At the follow-up, 39 patients had died at an average age of 55.5 years. Three patients survived at the ages of 47, 54, and 79 years. Heart symptoms first occurred at an average age of 47.2 years. The mean survival time after onset of symptoms was 8.8 years. Angina pectoris occurred in 52%, at an average age of 50.7 years, and was followed by an average survival time of 4.7 years. Syncope occurred in 22%, at an average age of 46.5 years, and the average survival time in these patients was 3.2 years. Congestive heart failure occurred in 23 of the 29 patients closely followed till time of death; the average survival time after onset of congestive failure was less than 1 year. Auricular fibrillation was detected in 3 of the 22 patients examined electrocardiographically at regular intervals till time of death. Definite roentgenologic enlargement of the heart and electrocardiographic changes, such as auricular fibrillation, atrioventricular block, isoelectric or negative T_1 wave, and especially abnormal T_1 wave combined with left axis deviation, indicated a much shorter survival time than was found in the absence of these signs. Thirty-seven of the 39 deaths during the period of observation were due to aortic stenosis and its classical complications. This study confirms that isolated aortic stenosis is a progressive disease with a grave prognosis.

Anginal and Pseudoanginal Syndromes in the Course of Disease of the Extrahepatic Biliary Ducts (Clinical and Statistical Preoperative and Postoperative Data). A. Peracchia. Riforma med. **72:**287-295 (March 15) 1958 (In Italian) [Naples].

The author compiled statistical data on changes of the electrocardiographic records in the course of extrahepatic biliary duct disease in 426 patients, 351 of whom were women and 75 were men. Preoperative examination of the patients revealed typical symptoms of biliary disease in 327 patients (77%) and an atypical picture associated with anginal and pseudoanginal symptoms in 99 patients (23%), 60 of whose electrocardiograms were without and 39 were with changes. Calculous type of the disease was present in 242 patients, inflammatory type in 96, and enlargement of the gallbladder and of the biliary ducts in 88. Preoperative electrocardiographic changes were found in 162 patients (38%), 125 of which were of coronary origin. The incidence of changes was slightly higher in men than in women.

Electrocardiograms of 55 patients, which showed pathological changes before the operation, were studied postoperatively. Surgical operation, which was mostly a cholecystectomy, corrected also the cardiac disorder in more than one-half of the 55 patients. There was normalization of cardiac function in 12 patients (22%), improvement in 18 (33%), no change in 20 (36%), and deterioration in 5 (9%). No improvement in the electrocardiograms could be ascribed to the existence of a cardiac lesion, which was independent from the disease of the extrahepatic biliary tract. Chances of improvement tended to decrease inversely with the age of the patients. Postoperative improvement, as recorded by electrocardiograms, was higher among women than among men. Worsening of cardiac condition

The place of publication of the periodicals appears in brackets preceding each abstract.

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can be attributed either to the advanced age of the patients or to bronchopneumonic diseases which had developed shortly before the postoperative control examination took place. It was possible to relate the coronary disorder directly to the disease of the biliary tract in 1 patient only.

Pulmonary Alveolar Proteinosis. S. H. Rosen, B. Castleman and A. A. Liebow. New England J. Med. **258:**1123-1142 (June 5) 1958 [Boston].

The authors report on 21 male and 6 female patients, between the ages of 2½ and 57 years, with a disease of the lung that consists of the filling of the alveoli by a PAS-positive proteinaceous material, rich in lipids. This material appears to be produced by the lining cells, which slough into the lumens of the distal air spaces, ultimately becoming necrotic and yielding granules and variable laminated bodies to the alveolar content. Thirteen of the 27 patients had premonitory febrile illnesses that were usually considered pneumonia. The onset in most patients was unheralded, and creapingly progressive dyspnea, accompanied by cough which was usually productive, developed. Sputum, which varied in amount, was sometimes described as thick and yellow. Fever was absent in most of the patients. Fatigability, chest pain, and slight loss of weight were complaints of a considerable number of patients. Chest roentgenograms obtained at the height of the illness were strikingly similar in various patients. There was a fine, diffuse, perihilar, radiating, feathery or vaguely nodular, soft density, resembling in its "butterfly" distribution the pattern seen in patients with severe pulmonary edema. The changes may persist for months or years, during which they may clear, remain more or less stationary, or progress. There were 8 deaths, which resulted from progressive filling of the alveoli or from superimposed fungal or bacterial infection. In 13 of the patients, symptoms persisted in varying intensity for 5 to 35 months after the first manifestations. Most of these patients were able to return to work, but at least 2 became incapacitated because of dyspnea on slightest exertion.

Eleven of the 14 patients, for whom details of treatment were available, received large doses of antibiotics, chiefly penicillin but often broad-spectrum antibiotics. These drugs appeared to be useful in terminating febrile episodes presumably associated with superimposed bacterial infections. There was no evidence that they altered the course of the proteinosis. Adrenocorticoids, which were administered to 10 patients, likewise did not affect the course of the disease. Examination of biopsy specimens and of tissue from 7 autopsies revealed multiple yellow-gray or gray nodules that did not collapse, were relatively firm to palpation, and were evident beneath the pleura. These varied from several millimeters in diameter to confluent masses as large as 2 cm. in diameter. Consolidation was usually evident in large portions of the lungs. On microscopic examination, the fully formed and most characteristic lesion consisted of granular and floccular acidophilic material which filled large groups of alveoli, with minimal or no changes in the interalveolar septums. Acicular crystals and variable, intensely straining, laminated bodies, believed to be cellular fragments, were abundant in some fields in almost all cases. Nothing is known regarding the causation of the condition. Certain roentgenologic and histological similarities to Pneumocystis carinii infection have stimulated an intensive but fruitless search for the parasite. The homogeneity of the tissue response among the various patients and the clinical differences from pneumonitis due to the Pneumocystis organism suggest some other causative agent.

The Role of Adrenocortical Steroids in the Treatment of Intractable Bronchial Asthma. J. W. Irwin and W. S. Burrage. J. Allergy **29:**233-241 (May) 1958 [St. Louis].

There are 2 main categories of asthma: (1) that with an allergic basis, and (2) that of undetermined etiology. In the nonallergic group descriptive terms, such as intrinsic, infectious, psychological, or nervous, have been added with some justification, but definite proof of etiology is lacking, and this form is often refractory to diverse treatments. The authors discuss their experiences with the continuous administration of adrenocortical steroids to 60 patients with severe, intractable asthma of undetermined etiology. When cortisone or hydrocortisone was chosen, 300 mg. was given during the first 24 hours, and then 200 mg. was given daily until each patient was subjectively and objectively free of asthma. With prednisone or prednisolone, 200 mg. was sufficient for the first day. The initial day's therapy was followed by 100 mg. every 24 hours until no symptoms were present. A table lists the total clearing dose for each patient. Cortisone, hydrocortisone, prednisone, and prednisolone were all capable of freeing a patient of asthmatic symptoms. No 1 preparation was demonstrated as having any advantage over the other 3. The total clearing dose was individual for each patient and did not depend upon the severity of the disease. It is possible to suppress the symptoms of asthma with these agents for as long as 7 years. In fact, the adrenocortical steroids are the most effective compounds in relieving the asthmatic patient of his symptoms. The search for efficient steroids free of unpleasant reactions continues. The use of cortisone, hydrocortisone, prednisone, and prednisolone was accompanied by the effects of hyperadrenalism, and serious illnesses occurred with all 4. Corti-

sone is the cheapest, and it is probably the agent of choice, because this study suggests that no 1 compound has any consistent therapeutic advantage over the others in long-continued therapy. Although patients with serious asthma may benefit from control of symptoms with long-term daily administration of 1 of the adrenocortical steroids, they must assume definite risks.

The Effect of Cortisone and of Prednisone on the Endocrine Glands in Man. J. Guignard and P. Ducommon. Schweiz. med. Wchnschr. **88**:427-432 (May 3) 1958 (In French) [Basel, Switzerland].

Cortisone and its derivatives (prednisone, prednisolone) are used in practice for their anti-inflammatory effect. Cortisone, which is an adrenal cortical hormone, not only possesses precise pharmacological properties but also produces an effect on the endocrine glands because it forms part of the regulatory system by which they are governed. Consequently, it modifies profoundly both the structure and the functioning of the adrenals, the hypophysis, the thyroid, and the islands of Langerhans in the pancreas. The functional and structural modifications so produced were studied by the authors in 4 patients with fatal illnesses who were given prolonged treatment with cortisone or its derivatives (prednisone, prednisolone). The first patient was a 51-year-old woman with asthma who died of cardiovascular collapse; the second was a 17-year-old youth with myeloid leukemic and hemorrhagic symptoms who died of a cerebral-meningeal hemorrhage; the third was a 55-year-old man with a gastric ulcer and myeloid leukemia who died suddenly in adrenal insufficiency; and the fourth was a 53-year-old man with disseminated lupus erythematosus who died of multiple intestinal perforations.

The histological findings in these patients seem to show that degranulation of the basophil cell is the principal change produced by cortisone in the hypophysis. The degranulation is accompanied by a transformation of the entire cell leading to protoplasmic hyalinization, such as that seen in Crooke's cell. Even small doses of cortisone may result in modifications of the hypophysis. The ensuing functional and structural changes are reversible, but they may persist for prolonged periods.

The inhibition of the secretion of corticotropin produced by the direct action of cortisone on the hypophysis leads to secondary adrenal hypofunction. This is made evident by fatigability and manifestations of hypoglycemia when cortisone is withdrawn. Morphologic observation reveals progressive atrophy of the adrenal cortex with rarefaction of the lipid content of the fascicular zone. These symptoms are also reversible. Cortisone has a depressive effect on thyroid function, as shown clinically by a reduction in the uptake of radioactive iodine (I^{131}) and a lowering of the serum protein iodine level (protein-bound iodine). Prolonged treatment may lead to permanent hypothyroidism. Histologically, the thyroid appears to be dormant; the follicular epithelium is flattened, and the dense, acidophilic colloid material shows no resorption vacuoles. The slackening of thyroid function may be accompanied by goiter, as in a case of lipid nephrosis reported by the authors in a 12-year-old child. Cortisone, by its direct action on the pancreas, seems to favor the secretion of insulin to offset its gluconeogenic effect. A curve of induced hyperglycemia which is prediabetic in type at the beginning of treatment in normal subjects will resume a physiological aspect a few days later. The histological changes produced in the pancreas consist of an increase in, and hypertrophy of, the islands of Langerhans.

The authors emphasize the fact that, even when the glucocorticoids are used for specific therapeutic purposes, they are still adrenal cortical hormones forming part of the endocrine-regulatory system. More or less profound changes are always produced in the endocrine glands by the administration of cortisone and its derivatives.

Socioeconomic Status and Diabetes Mellitus. H. L. Dobson, H. S. Lipscomb, J. A. Greene and H. T. Engelhardt. J. Chron. Dis. **7**:413-421 (May) 1958 [St. Louis].

The diabetic patient attending a charity clinic presents a multitude of social, economic, and medical factors that tend to make him a much different problem from the diabetic under private care. In an attempt to clarify and quantitate some of these factors, a study was instituted in 1955 in the diabetic clinic at Jefferson Davis Hospital, a city-county charity hospital in Houston, Texas. Outpatient charts were reviewed and interviews were held with 224 diabetic patients selected at random. At the conclusion of the study certain corrective measures were instituted. It was not possible to increase the number of house staff physicians assigned to this clinic, but it was possible to utilize the services of the medical students to perform complete medical examination, and about one-fourth of the patients receive this service each year. In addition, a routine has been established so that chest x-rays and electrocardiograms are obtained periodically and each urine specimen is analyzed for sugar, acetone, protein, and cellular components.

A training program has been established in which an attempt is being made to teach each diabetic attending the clinic more about the disease. A chiropody section has been added to the diabetic clinic, so that all patients are instructed in foot care and problem cases receive special attention.

A vascular surgeon attends all clinics to help with the problems in his field. A social worker has been added to the staff, and her services are invaluable in many ways. A Public Health nurse has been assigned to the hospital to teach the student nurses to give proper nursing care and instructions to diabetic patients. Much of this instruction is given in the clinic where the student nurses, under the supervision of the instructor, teach the diabetic patients the proper methods of administration of insulin and testing of urine. The house staff is being taught to consider the diabetic as a patient and not as a problem in glycosuria.

Importance of Histochemical Stains and of the Osmotic Leukocyte Fragility Test in the Diagnosis of Leukemia. G. Anderloni. Minerva pediat. 10:213-223 (March 3) 1958 (In Italian) [Turin, Italy].

Hotchkiss and Sudan black-Giemsa stain methods, supported by the osmotic leukocyte fragility test, helped to establish a definite and correct diagnosis of leukemia in 5 children, 3 to 9 years of age, after other diagnostic methods had failed. Four children had acute lymphocytic leukemia, characterized by the presence of highly immature and atypical cells in the peripheral blood and in the bone marrow. One child had acute myelocytic leukemia, characterized by the presence of immature cells of the myeloid group, some having marked atypical features in the circulation and in the bone marrow. The disease ran a fatal course, with brief remissions, from a few weeks to 5 months in all the children. Rheumatic pains were intense along the long bones of the patients. Blood transfusions had a favorable effect on the anemia and reinforced the state of temporary remission. No side-effects ascribed to blood transfusion were observed. Antibiotics were valuable in preventing septic and infectious disorders. Administration of cortisone and corticotropin (ACTH) produced temporary remission of the disease, accompanied by normalization of the peripheral blood and the bone marrow.

Obesity, Fat Metabolism and Diabetes. D. Adlersberg. Diabetes 7:236-241 (May-June) 1958 [New York].

According to the author, of 170 million Americans, 50 to 60 million are overweight. Of these, only 2 million have diabetes. Obesity is probably a hereditary trait accompanying diabetes. The treatment of the obese diabetic must be primarily directed against obesity, since weight reduction results in many patients in gradual subsidence of the symptoms of diabetes. Obese persons without manifest diabetes tend to exhibit after ingestion of glucose higher blood sugar curves during the "static" phase than during the "dynamic" phase, as observed by other workers in 54 obese persons without diabetes. Thirty-five patients who belonged to the static group had a history of steady overweight for 10 to 25 years, while 19 persons of the dynamic group had obesity for several years only. The average age of patients in the dynamic group was 33.5 years; that of those in the static group was 46.4 years. Thus, the static group contained persons who were older and heavier, and in whom obesity was of longer standing than did the dynamic group. Extremely high serum lipid levels may be occasionally observed in patients with diabetes mellitus, even in absence of ketonuria. The highest values were observed by the author in patients presenting the association of idiopathic hyperlipemia and diabetes mellitus. A remarkable lability of serum lipids in connection with hyperglycemia and glycosuria, even in absence of ketonuria, is a characteristic feature of this syndrome. Diabetes complicated by retinopathy, hypertension, edema, and proteinuria (Kimmelstiel-Wilson syndrome) may be associated with elevation of all serum lipid fractions as well as of complex carbohydrates. In early diabetic retinopathy without evidences of renal involvement, increases in serum triglycerides and total lipids were observed, while the levels of serum cholesterol and phospholipid remained normal. Simultaneous elevation of serum glucosamine and total serum polysaccharide values was seen. The use of otherwise adequate low-fat diets is suggested in order to combat an important associated disturbance of diabetes, obesity, and perhaps atherogenesis.

Natural History of Diverticulosis of the Colon. J. L. Horner. Am. J. Digest. Dis. 3:343-350 (May) 1958 [New York].

The authors report on 267 women and 236 men, between the ages of 20 and 89 years, with diverticulosis of the colon. Of these, 300 patients were followed from 1 to 5 years, 154 from 6 to 10 years, and 49 from 11 to 18 years. The sigmoid colon was the most common site of the diverticula; 95% of the 503 patients had some or all of the diverticula in the sigmoid, with symptoms localized to the left lower quadrant. One hundred eighty-two patients were between the ages of 60 and 69 years, and 170 patients were between the ages of 50 and 59 years. The clinical impression thus was confirmed that aging plays a role in the development of diverticula. Previous bowel habits were found to play no causative role, but the possible influence of increased intraluminal or intraabdominal pressure was suggested by 2 factors: 1. The incidence of hiatus hernia was much higher in patients with diverticula than in those without diverticula. 2. In 35 (83%) of the 42 patients who had had roentgenologic examinations of the gastrointestinal tract before the development of diverticula, a diagnosis of

the irritable colon syndrome was made on the basis of clinical factors and the roentgenographic appearance of the colon. Of 183 patients who had repeat roentgenologic examinations some years after the diverticula had first been detected, 66% showed no significant increase in number, size, or distribution of the pouches. The roentgenographic appearance of the colon of some patients was unchanged for as long as 14 years.

The length of time that the patient was followed determined the incidence of classical diverticulitis. Eighteen (37%) of the 49 patients who were followed from 11 to 18 years had attacks of diverticulitis; only 30 (10%) of the 300 patients followed from 1 to 5 years were affected by diverticulitis. The over-all incidence was 17%. Medical treatment of diverticulitis proved highly successful. Only 2 of 85 patients with diverticulitis were operated on; thus, only 2 (0.4%) of the 503 patients with diverticulosis of the colon were treated surgically. The author's experience with diverticulosis of the colon shows that the natural history of this disease is usually a benign one, since patients who cooperate with a dietary program of avoiding foods which leave rough undigested particles in the stool seldom get into serious trouble. Surgical treatment, therefore, is indicated only for certain complications, such as pericolic abscess, and then only after evaluation of the individual case and consultation between the physician and the surgeon.

So-Called Primary Systemic Amyloidosis Probably Due to Myelomatosis. H. C. Godal. Acta med. scandinav. **160**:431-435 (No. 6) 1958 (In English) [Stockholm].

The patient was a 44-year-old farmer, who presented symptoms of systemic amyloidosis combined with marked growth of bone marrow plasma cells compatible with myelomatosis (plasma cell myeloma) but without other signs of this condition, such as osteolytic bone lesions, hyperglobulinemia, and Bence Jones's proteinuria. The presence of amyloid was confirmed by skin biopsy. There was no evidence of Boeck's sarcoidosis, lupus erythematosus disseminatus, or other diseases known to be associated with systemic amyloidosis. The question arose whether the patient's condition was to be classified as so-called primary amyloidosis of Lubarsch, or whether it was to be classified as myelomatosis, which is accompanied by systemic amyloidosis in about 10% of all cases. In such cases hyperglobulinemia and bone lesions are relatively rare. The electrophoretic pattern of the serum proteins in this patient conformed with findings in myelomatosis without hyperglobulinemia, but it was in contrast to findings in other diseases associated with bone marrow plasmacytosis and thus strongly suggested myelomatosis.

SURGERY

Surgical Management of Arterial Obliterative Disease: Special Reference to Thrombo-endarterectomy. W. H. Muller, H. V. Liddle, and M. C. Edmunds Jr. Ann. Surg. **147**:845-853 (June) 1958 [Philadelphia].

In recent years two methods have evolved in the direct surgical management of obliterative arterial disease. Successful restoration of circulation with grafting or endarterectomy is more feasible when the obstruction is localized and when there is good collateral circulation, with an adequate distal peripheral vascular bed to consume the restored blood flow. Thromboendarterectomy, although not so well established, has proved to be remarkably satisfactory in patients whose disease processes have extended over long segments. The technique, which has numerous advantages, employs the development of a cleavage plane between the atheromatous core and the adventitia and medial layers of the artery.

Application of these procedures was made over a 2½-year period in the treatment of 62 patients with obliterative arterial disease at the University of Virginia Hospital in Charlottesville. There were 4 deaths during the immediate postoperative period among these patients, 35 of whom were subjected to thromboendarterectomy and 27 to excisional surgery and grafting. The aorta and common iliac arteries were involved in 21 and the femoral artery in 14 of the 35 patients who had thromboendarterectomy. Fifteen of the 27 patients who had excision and grafting, or grafting procedures alone, had involvement of the aorta and common iliac arteries, and the remaining 12 had involvement of vessels distal to these. In all 62 patients symptoms, which included those of weakness and claudication in the lower extremities and pain, coldness, and numbness in the feet, had been present as long as a few months to several years. Late results have been excellent in 72% of the patients with aortic and iliac artery occlusion who were subjected to thromboendarterectomy, and also in 71% of those with occlusion of the femoral or popliteal arteries. Twenty-one of the 27 patients treated with grafting procedures have been followed for 6 months, with excellent results in 53% of the aortectomy group and in 25% of those with femoral artery obstruction.

Substitution of Right Colon for the Esophagus. R. H. Patterson and S. G. Robbins. Ann. Surg. **147**:854-862 (June) 1958 [Philadelphia].

The technique employed by the authors in utilizing the ascending colon as a substitute for the esophagus is essentially that described by Sherman. Because of the high mortality in the 1-stage procedure in resection of malignant lesions, it is felt that patients should be operated on in 2 stages. The

first stage consists of mobilization of the ascending colon and anastomosis of the cecum to the cervical esophagus. The colon is brought through a retrosternal tunnel, and the pleura is not opened. At the second stage, a thoracotomy is done, and, if feasible, the lesion is resected. Should the lesion be nonresectable, x-ray therapy is indicated. In benign lesions requiring high anastomosis, the chest is not entered, as an incision is made just anterior to the sternocleidomastoid. The esophagus is divided above the lesion, the distal end is closed, and a tunnel dissected through the sternum anterior to the parietal pleura through which the cecum and colon are passed for anastomosis to the upper esophagus or pharynx.

Sufficient time has not passed for proper evaluation of the colon as a substitute for the esophagus, although it would appear to have much to offer in children with caustic or congenital strictures. The colon has been used in 11 patients as a substitute for the esophagus, excellent results being obtained in 2 children with congenital stricture. Similar results were forthcoming after its use in an adult with caustic stricture and in another with peptic esophagitis compounded by ulceration and obstruction. Five patients with carcinoma of the esophagus and 2 with carcinoma of the stomach with extension into the esophagus were operated on. Three of the carcinoma patients who were operated on with the 1-stage procedure died in the immediate postoperative period as a result of their surgery. None of the patients who were operated on with the 2-stage procedure died, and these patients were relieved of their obstruction and were considered to have good palliation. The over-all results are considered sufficiently good to warrant further application of this procedure.

Bursitis. F. C. Durbin. Brit. J. Clin. Pract. **12**:317-320 (May) 1958 [London].

Under normal conditions, the quantity of fluid produced by the endothelial lining of a bursa is small, but it may be excessive when a state of hydrops of the sac exists. This may not be painful unless the fluid is under tension or because the sac restricts free movement and is pressed on by the tissues. More often the increase in fluid is a result of true inflammation. Whatever the cause, an enlargement of a bursal sac is usually called bursitis. Bursae may exist between the skin and the underlying bony prominences or between the skin, muscles, or tendon and bone. Many are adventitious and occur either because of an underlying bony abnormality, such as an exostosis, or because abnormal pressure is applied to the area. Occupational bursitis is produced by constant mild repetitive trauma, examples of which are housemaid's knee and miner's or writer's elbow. Bursitis in adventitious bursae is frequently seen in association with hallux valgus and with exostoses of the long bones. It sometimes occurs at the bone ends in amputation stumps.

Other causes of bursitis, besides repetitive trauma, are arthritis, tuberculosis, syphilis, and gout. The bursae which most commonly become inflamed are listed. Occupational bursitis can be largely prevented by protective devices (knee pads and so on). Acute traumatic bursitis will respond to rest, but, if there is hemorrhage, aspiration of fluid and blood and the application of firm pressure will be necessary. Acute suppurative bursitis can be successfully treated early by aspiration, by the administration of penicillin if the organism is penicillin sensitive, and by splintage. The treatment of adventitious bursitis should be to remove the precipitating cause. In the case of hallux valgus this may be the wearing of tight shoes, but, if the bursa is very thickened and the deformity very severe, the only really effective treatment is an operation to remove the exostosis and correct deformity.

The Nature of Local Recurrence Following Radical Mastectomy. H. Auchincloss Jr. Cancer **11**:611-619 (May-June) 1958 [Philadelphia].

The author reports on 152 women with breast cancer who underwent radical mastectomy with "dermal dissection," i. e., carrying the dissection as nearly as possible into the derma, trying to avoid the subcutaneous and vascular tissues that exist close to and actually in the derma. This was carried out to the limits of fascial dissection—i. e., clavicle, sternum, rectus sheath, and latissimus dorsi muscle. The flaps thus made were really nothing more than a whole-thickness skin graft and contained no fat. One hundred forty-five (95.4%) of the patients were followed up for 10 years or more after the operation. There were 22 patients (14.5%) with local recurrence from 1 to 10 years after the operation. All but 3 of the recurrences appeared before the 5-year period was reached, and death usually occurred on the average of 1½ years later. In 16 of these 22 patients, axillary metastases were found on histological examination, but in 6 they were not. The primary tumor lay in the medial half of the breast or close to or beneath the areola in most of the patients, and this was universally the case in the 6 patients without axillary metastases. The significance of this lies in the fact that it is now well recognized that such tumors tend to involve the internal mammary nodes in a high proportion of patients, with the result that parasternal nodules of cancer constitute the local recurrence seen in about half the total number of patients; they were found in all 6 of the patients without axillary metastases.

Thus, even by the most radical type of operation, as far as the amount of subcutaneous tissue removed is concerned, a 10-year local recurrence rate of

14.5% occurred. It is obvious that the problem of local recurrence is less likely to be related to the amount of skin and subcutaneous tissue removed, or to the thickness of the skin flaps, than it is to the extent of the disease at the time of the operation, to the degree of malignancy of the tumor, and especially to the location of the tumor within the breast, the subareolar and medially situated tumors having the greatest likelihood of involvement of internal mammary nodes. The concept that most local recurrences are, in reality, outgrowths of tumor from preexisting foci in the lymphatics of the chest wall, especially internal mammary nodes, thus leads to the conclusion that very wide removal of skin and subcutaneous tissue is not necessary and fails to prevent local recurrence of cancer in the operative field. Nineteen of the 152 patients who at the time of operation were found to have axillary metastases remained well and clinically cured for more than 10 years after operation, including 2 with highest axillary node metastases. These findings suggest that criteria of operability must constantly be scrutinized in order to avoid denying operation to the occasional patient who might have been cured.

Side-to-Side Portacaval Anastomosis for Portal Hypertension. W. P. Longmire Jr., D. G. Mulder, P. S. Mahoney and S. W. Mellinkoff. Ann. Surg. **147**:881-894 (June) 1958 [Philadelphia].

For those who accept the rationale of portacaval anastomosis in the treatment of bleeding esophageal varices associated with portal hypertension, there are 3 methods by which a sufficient volume of blood can be shunted from the portal system into the systemic circulation: (1) ligation of the portal vein at the liver and anastomosis of the distal end of the vein to the side of the vena cava; (2) side-to-side anastomosis of the portal vein and the vena cava; and (3) splenectomy and anastomosis of the splenic vein to the left renal vein. The latter 2 methods are similar in that the continuity of the portal vein is not disturbed, and a normal channel persists through which some of the portal venous blood may reach the liver prior to returning to the systemic circulation. In the first method the liver receives blood from the hepatic artery alone as all the portal blood is diverted directly into the systemic circulation. Recent reports have emphasized the use of either the end-to-side portacaval anastomosis or the splenorenal shunt. Side-to-side portacaval anastomosis, which has been used sporadically since it was first successfully performed by Rosenstein, has several disadvantages. It is technically more difficult, and thrombosis of the anastomosis occurs more frequently. Further, there is no evidence that portal venous blood will flow into the cirrhotic liver past an adequate shunt opening into the inferior vena cava, and it may actually be harmful to create a situation which will enable the hepatic arterial blood to pass through the proximal portal venous channels in a retrograde manner, thereby depriving the liver of a portion of its arterial blood flow and in effect creating multiple arteriovenous fistulas.

The present series of 28 patients with portal hypertension treated surgically includes 19 in whom portacaval anastomosis was performed for bleeding esophageal varices without operative mortality. A shunt operation was performed for ascites in 1 patient, all other patients being operated on for bleeding esophageal varices. There were 20 males and 8 females, ranging in age from 4 to 68 years, all of whom suffered from an intrahepatic obstruction. The clinical findings and pathological changes in the liver were compatible with a finding of Laennec's alcoholic cirrhosis in 14 cases, and posthepatic cirrhosis in 6 cases. A side-to-side technique was used in 17 cases, an end-to-side technique in 1, and a splenorenal shunt in 1. There were no immediate postoperative deaths in the present series of 19 portacaval anastomoses for bleeding esophageal varices. Three patients have been well for over 5 years, 7 have been well for over 2 years, and there have been 2 late deaths from liver failure at 2 and 18 months respectively. Nine of the patients who had portacaval shunts for bleeding varices have been reexamined recently, and in no instance was there a single episode of postoperative bleeding from varices despite the fact that all patients had previously had several severe hemorrhages. If a patient has portal hypertension and bleeding esophageal varices associated with cirrhosis of the liver or occlusion of the portal vein, further bleeding can be controlled by the establishment of an adequate portacaval anastomosis. There is no definitive evidence that such a shunt has any direct effect on the liver, either beneficial or harmful. The procedure does protect the patient by preventing further bleeding into the alimentary tract and may thus avert further deterioration of liver function.

Arterial Embolization: Modern Concepts of Management (Case Report of Successive Aortic "Saddle" and Femoral Embolectomies in an Advanced Cardiac Patient). J. S. Licha and J. M. Torres-Gómez. Bol. Asoc. méd. Puerto Rico **50**:142-153 (April) 1958 (In English) [Santurce, Puerto Rico].

A woman, 68 years old, with hypertension and arteriosclerotic heart disease had been frequently hospitalized for 2½ years with attacks of severe decompensation which subsided on the administration of digitalis and diuretics, bed rest, and low-salt diet. In 1 of these attacks, decompensation improved for the first 3 days. On the 4th day the patient complained of acute pain over the right thigh and numbness over the entire extremity. The pain shifted to the low midabdomen and radiated

toward the right hip, the right knee, and the left leg. Both legs were cold. No pulsations were felt in either femoral artery. A diagnosis of acute aortic occlusion was made. A "saddle" embolectomy was performed 9 hours after the appearance of the first symptoms. At conclusion of the operation regular peripheral pulses were felt. The patient did well for 4 days. On the 5th day arrhythmia was noted, and the electrocardiogram showed auricular fibrillation. Anticoagulant therapy was started. On the 3rd day of this treatment, the patient complained of pain over the left thigh. The leg became cold and cyanotic, and the radial and popliteal pulses disappeared. A left femoral artery embolectomy and stripping periarterial sympathectomy were performed 3½ hours after appearance of the symptoms. Immediately after the operation all pulses were regained. No surgical treatment was required for the embolus at the right arm, as collateral circulation was adequate.

The patient was discharged 3 weeks after the first operation on therapy with Dicumarol in daily doses of 100 mg. and quinidine in daily doses of 0.2 Gm. The femoral and radial pulses remained regular, and the popliteal pulse and the pulse at the level of the ankle remained intermittent. Dicumarol was withdrawn, however, because it caused hematuria. The patient discontinued taking quinidine on her own accord and worked harder than she should. Four and a half months later she reported to the hospital with decompensation. The electrocardiogram showed changes of auricular fibrillation of the type of a myocardial infarction. The patient regained cardiac compensation for 3 days, at the end of which she presented great difficulty in breathing, cyanosis, and fall in blood pressure. She died within a few minutes after the onset of these symptoms. The authors felt that the patient died in another attack of coronary thrombosis 4½ months after a successful "saddle" embolectomy.

Treatment of Fat Embolism With Heparin. R. H. Sage and R. W. Tudor. Brit. M. J. 1:1160-1161 (May 17) 1958 [London].

The authors report on 3 men, aged 19, 23, and 40 years, who sustained fractures of the lower extremities complicated by the occurrence of fat embolism for which they were treated with heparin at the Selly Oak Hospital in Birmingham. The dosages of heparin employed were those used in deep calf-vein thrombosis, and, although the records of clotting-time are not available, it was raised considerably in each patient. The shortness of the course given—that is, 3 days in each—is noteworthy. Hemorrhage at the fracture site, delayed union, and more than usual joint stiffness after conventional treatment of the fracture were noted. The latter complication was possibly due to the forced neglect of physical therapy in the early days after injury, when the general condition of the patient was poor. All three patients recovered, and this prompted the authors to suggest that heparin treatment is worthy of further trial in this serious condition and that a controlled series of cases would be justified.

Enterocolitis Acuta Pseudomembranacea, A Postoperative Secondary Disease. F. Holle, R. Schautz and F. Becker. Arch. klin. Chir. 288:219-236 (No. 2) 1958 (In German) [Berlin].

The authors report on the increased occurrence of acute pseudomembranous enterocolitis as a serious postoperative complication which was observed at the surgical clinic of the University in Würzburg, Germany, between 1952 and 1957. Of 30 patients who died and on whom autopsy was performed, death resulted from enterocolitis in 13. This complication was particularly associated with major abdominal operations, since it occurred in 11 (8.5%) of 128 patients who underwent such operations between 1956 and 1957; it occurred in only 3 of 100 patients who underwent thoracic surgery. All the 11 patients had been treated with broad-spectrum antibiotics; severe diarrhea and circulatory failure occurred in 5, but none of them died.

The course of this enterocolitis showed 3 phases. The first is the functional-toxic phase which occurs between the 1st and the 3rd postoperative day and shows prodromal symptoms, such as meteorism, colic, slight fever, and rapid pulse; a mucosal catarrh causes temporary mild diarrhea. The second is the diarrheal-pseudomembranous phase, the anatomic basis of which is an acute edema, inflammatory infiltration of the mucosa with focal submucosal hemorrhages, and formation of a pseudomembrane on the surface. It develops between the 4th and the 6th postoperative day. The clinical aspect is characterized by profuse diarrhea and circulatory failure. The third phase is one of generalized intoxication and septic invasion. It occurs between the 6th and the 14th postoperative day, when fatal circulatory collapse has not occurred previously. There are hemorrhages and fibrinoid necroses of the entire mucosa. Deep necroses of the intestinal wall may lead to perforation, and absorption of enterotoxin may result in paralytic, therapy-resistant collapse. The 3 phases may overlap. The result of macroscopic and microscopic examination of the intestinal wall in various portions of the intestinal tract confirmed the authors' opinion that this enterocolitis is a syndrome which is elicited by the concurrence of vasotropic and histotropic noxae. There are 3 main causative factors, namely, the vascular reaction (vascular paralysis, hyperemia, and diapedesis), the tissue reaction (erosion of the mucosa), and the changes in the flora of the colon caused by antibiotics. These factors

are elicited and influenced, respectively, by stress, allergen effect, condition of immunity, reduced energy stores, and effect of antibiotics; they result in nausea, colic, vomiting, meteorism, diarrhea, fever, and paralytic collapse which in unfavorable cases leads to generalized intoxication and death.

From this clarification of the causation of the disease it appears that the most important prophylactic measure consists of watching for the initial symptoms of enteritis. This means current control of the intestinal function; increased evacuation of odorless stools is the warning symptom. Preoperative disinfection of the intestines must be carried out with carefully determined doses of antibiotics for no longer than 2 days preceding the operation. Neomycin or Nebacetin (a proprietary preparation of neomycin and bacitracin), of which either 6 tablets are given 4 times in 24 hours or 4 tablets 6 times in 24 hours, prove highly effective. Postoperative prophylaxis with antibiotics should not exceed 4 days. Therapy should be mainly directed to the normalization of the blood pressure by infusions to which arterenol may be added, and to the restoration of the electrolyte balance by administration of large amounts of Ringer's solution with the addition of 5% sodium bicarbonate and potassium chloride. Carbohydrate and protein substitution must be carried out by blood transfusion, administration of stored serum, and levulose infusion. Restoration of the normal intestinal flora may be supported by administration of vitamin B complex, vitamin K, Lactobacillus-containing preparations, high-caloric protein diet, extracts of raw liver, yoghurt, and suspension of colibacilli. The administration of erythromycin should be reserved for emergency cases in which the presence of resistant strains of staphylococci has been established.

The Clinical Trial of Streptomycin Pantothenate in the Treatment of Soft Tissue Infections. R. A. LaCaille and A. Prigot. Am. J. Surg. **95**:963-966 (June) 1958 [New York].

This communication deals with the use of streptomycin pantothenate (Didrothenat), in conjunction with surgery, in the treatment of 116 patients with soft-tissue infection. Some of the patients were hospitalized, but many were managed on an ambulatory basis. The pantothenate of streptomycin, used alone or in conjunction with penicillin in the treatment of soft-tissue infection, produced an excellent therapeutic response in all cases. The drug eliminated the toxic and side-reactions associated with streptomycin and dihydrostreptomycin, and in no case in this series was the medication withdrawn before the completion of treatment. The use of the antibiotic results in fewer patients being subjected to surgery, the employment of surgical procedures of lesser magnitude, and a decrease in morbidity. The micro-organisms recovered were more susceptible to the pantothenate of streptomycin than to streptomycin sulfate. The possibility of the emergence of strains resistant to streptomycin is thereby decreased. The inhibitory effect of the pantothenate of streptomycin on both gram-positive and gram-negative organisms, the high level of patient tolerance and clinical response, and the absence of toxicity make this new antibiotic a valuable adjunct in the management of soft-tissue infections.

Legg-Calvé-Perthes' Disease: A Study of Late Results. D. L. Evans. J. Bone & Joint Surg. **40B**:168-181 (May) 1958 [London].

Calvé, Legg, and Perthes, all in 1910, and Waldenström, in 1909, independently described an abnormality (osteochondrosis) of the femoral capital epiphysis in children. This study was undertaken to gain further knowledge of the natural history of this condition as shown by its late results. The patients included were all treated at the Royal National Orthopaedic Hospital in London. The criteria for their inclusion were a follow-up of 10 years or longer from the initiation of treatment, satisfactory clinical records, and, when possible, roentgenograms of the condition at onset, and details of the method of treatment and after-care. Of more than 200 patients with Legg-Calvé-Perthes disease treated more than 10 years previously, only a third were traced. After all cases not fulfilling the above criteria had been discarded, 52 patients were available for study. No patient with changes in the upper femoral epiphysis occurring during treatment of congenital dislocation of the hip was included. Thirty-nine of the patients were males and 13 were females. There was roentgenologic evidence of disease in both hips in 6 patients, although in only 1 were the symptoms and signs present on both sides. The age at which treatment began varied from 3 to 14 years. The duration of symptoms before treatment was begun varied from 1 to 36 months, the average being 6 months.

The routine treatment was rest in bed with simple leg traction, but in 4 patients a plaster-of-paris spica was employed and in 2 patients bed rest alone. Three patients were operated on early, the epiphysis being drilled or grafted, but were otherwise treated with traction. The period of bed rest varied from 2 to 24 months, the average being 10 months. In all patients this was followed by the use of a weight-relieving caliper for an average period of 15 months. The average duration of treatment was therefore 10 months' traction, followed by 15 months in a caliper—a total of 25 months. The follow-up varied from 10 to 36 years, with an average of 16 years. The age at the most recent examination varied from 15 to 42 years, with an average of 23 years. The results of treatment were assessed

solely on the final shape of the femoral head, but symptoms and mobility were correlated with this. With a well-shaped head, pain was virtually absent and mobility almost always full. With a fair head most patients were free from pain, and mobility was full or nearly so, whereas with a poor head pain was usual and mobility was nearly always markedly decreased. Clinical features, therefore, closely paralleled the roentgenographic. The results obtained were good in 15, fair in 21, and poor in 16 patients. Judged roentgenologically, about one-third of the patients had good, one-third fair, and one-third poor femoral heads. The prognosis depends largely on the age at onset of the disease and on the sex of the patient. With 1 exception the result was always poor if the age at onset was over 8 years. Whereas three-quarters of the boys developed good or fair femoral heads and one-quarter poor heads, less than one-half of the girls obtained good or fair heads and more than one-half had poor femoral heads.

Disabilities of Tibial Shaft Fractures with Special Reference to Volkmann's Ischaemic Contracture. H. Ellis. J. Bone & Joint Surg. **40B**:190-197 (May) 1958 [London].

The author presents the results of an investigation into the incidence, etiology, and types of disability in 343 soundly united tibial shaft fractures. Limitation of ankle and/or foot movement occurred in 21 patients (6%) and was found to be the most important cause of disability. Knee stiffness (2.3% of cases) and shortening of up to three-quarters of an inch (5.5% of cases) caused little functional impairment. Stiffness of the foot and ankle was correlated with the severity of injury, occurring in 1% of minor, 5% of moderate, and 22% of major injuries. One-third of the patients with limitation of foot and ankle movement had clinical evidence of ischemic contracture. It is argued that, in the absence of direct injury to the joint, persistent joint stiffness is caused by replacement fibrosis of soft tissues. This may result either from direct tissue injury or from associated vascular damage.

Papillary Cystadenoma Lymphomatosum (Adenolymphoma): A Review of the Literature. A. P. Chaudhry and R. J. Gorlin. Am. J. Surg. **95**:923-931 (June) 1958 [New York].

The authors made a survey of the domestic and the foreign literature and were able to collect 349 cases of papillary cystadenoma lymphomatosum. One hundred twenty-four bibliographic references are listed. The authors added 8 cases from the files of the University Hospital and Mount Sinai Hospital, Minneapolis, bringing the total to 357 authentic cases. The clinical findings in the 8 new cases are tabulated. This neoplasm has been referred to by several different names. The most commonly used are adenolymphoma (Hall), onkocytoma (Jaffé), Warthin's tumor (Martin), and papillary cystadenoma lymphomatosum (Warthin). The name adenolymphoma, extensively used in Europe, is concise and descriptive of the histological components of this tumor, but it exaggerates the importance of lymphoid tissue at the expense of the epithelial tissue which constitutes its prominent feature. The neoplasm is found only in the parotid gland or in its immediate environs. It is most commonly located posterior to the angle of the mandible or in front of the lobule of the ear. Like other benign neoplasms, it is usually well defined, grows slowly without causing any symptoms, and is freely movable. It is 5 times more common in men than in women. It chiefly affects persons between 41 and 70 years of age, with the highest incidence in the 6th decade. It comprises from 2 to 6% of all parotid tumors and from 1.6 to 4.2% of all new growths of the salivary glands.

Of several theories concerning the histogenesis, the most satisfactory and well substantiated is that the neoplasm originates from heterotopic salivary tissue enclosed in preparotid lymph nodes. Surgical removal of the tumor is the best treatment. The tumor is usually well defined, is located superficially, and is therefore removed without difficulty. In rare instances the facial nerve traverses the growth and poses a problem. A definite diagnosis of the lesion by frozen-section examination at the time of operation would eliminate unnecessary radical removal of normal parotid tissue and hazard to the facial nerve. Radiation therapy has been tried in only a few cases and has proved of no value.

GYNECOLOGY & OBSTETRICS

The Evaluation of Tests to Differentiate Pre-Eclampsia from Hypertensive Disease. L. C. Chesley and C. Valenti. Am. J. Obst. & Gynec. **75**:1165-1173 (June) 1958 [St. Louis].

Of 31 pregnant women, 15 were carefully selected on the basis of clinical evidence for the diagnosis of preeclampsia and 16 for that of uncomplicated hypertensive disease. A battery of 5 tests that have been proposed for the differentiation of preeclampsia from hypertensive disease was given a trial in these 2 groups of patients. These tests were the cold pressor test, the response of blood pressure to the subcutaneous administration of vasopressin, the response of blood pressure to the intravenous administration of tetraethylammonium chloride, the sodium tolerance test, and the renal clearance test of urate. Of the group of 15 patients, 12 were primigravidas, and the 3 multiparas were known to have been clinically normal in their previous pregnancies. All 15 had been clinically normal until the onset of hypertension, edema, and proteinuria late in pregnancy. Of the second group of 16 pa-

tients, 11 were multiparas, all with histories of previous "toxemia" and hypertension either before or early in pregnancy. None had any clinical evidence of superimposed preeclampsia. All 31 patients were admitted to hospital and were at bed rest much of the time. The blood pressure responses to the cold pressor test and to the intravenous injection of tetraethylammonium chloride were not significantly different in the 2 groups of patients. These 2 tests seem to have no practical value in the differential diagnosis.

The average responses of women with preeclampsia were significantly different from the average responses of pregnant women with hypertension to the 3 other tests studied. In patients with preeclampsia, the mean rise in blood pressure after subcutaneous injection of vasopressin was greater than it was in women with hypertension. The responses overlapped from group to group, however. In patients with preeclampsia, the mean renal clearance of urate was significantly depressed as compared with the mean clearance in pregnant women with hypertension. However, the clearances overlapped from group to group. In patients with preeclampsia, the mean urinary concentration of sodium, after loading with sodium chloride, was significantly less than in pregnant women with hypertension. Again, there was considerable overlapping of the responses from group to group. Thus, none of the tests is specific enough to be used for definite diagnosis. The use of the 3 tests in conjunction does not improve the situation, for any one of the tests is equally likely to disagree with the other 2 (and with the clinical diagnosis).

Vaginal Trichomoniasis: III. Occurrence in Postmenopausal Women. M. Pereira Barreto, P. Valentie de Oliveira, H. Zago Jr. and others. Rev. Assoc. med. brasil. 4:48-53 (March) 1958 (In Portuguese) [São Paulo, Brazil].

Vaginal trichomoniasis in postmenopausal women is more frequent than is believed. Sixty-five postmenopausal women were observed at the gynecologic and obstetric clinic of the faculty of medicine of the University of São Paulo. The patients were between the ages of 46 and 79 years. They had passed the menopause for a period which varied between 2 and 38 years before consultation. Twenty-one patients (32.3%) had trichomoniasis. The infection was twice as frequent in Negro women as in white women, and it was twice as frequent also in patients with a vaginal flora of type 1 or type 2, according to Schroeder's classification, as in those with a vaginal flora of type 3. The Trichomonas organisms in the vaginal flora were associated with Candida organisms in 3 cases. The pH of the vagina was determined in 31 patients; it varied from 4.5 to 8.0. Trichomoniasis was found at all the vaginal pH levels. However, it was more frequent in patients with a vaginal pH between 6.0 and 7.0 than it was in the rest of the women with either lower or higher values. All the patients but 1 had more or less acute leukorrhea. Some of the patients showed signs of irritation of the vulvar region. Fifteen patients had vaginitis, either diffuse or restricted to the posterior fornix. The lesions were severe and extensive in some of the patients. However, the patients did not complain about local pain, pruritus, or a burning sensation, either spontaneous or during coitus. The frequency of trichomoniasis in postmenopausal women, most of whom were in a state of hypoestrogenism, seemed to indicate that the estrogens are not the causal factors of trichomoniasis.

PEDIATRICS

Myasthenia Gravis in Childhood. F. D. Costenbader. M. Ann. District of Columbia 27:227-230 (May) 1958 [Washington].

The author reports on 3 children, between the ages of 2 and 8 years, with myasthenia gravis who were admitted to the eye clinic of the Children's Hospital in Washington, D. C., between 1956 and 1958. In all 3 children signs of ptosis of the eyelid and paresis of the extraocular muscles were present. In the 2-year-old girl an erroneous diagnosis of left third cranial nerve palsy was made. Only after 0.5 mg. of neostigmine (Prostigmin) and 1/350 grain (0.17 mg.) of atropine had been injected was the diagnosis of infantile myasthenia gravis established, a remarkable improvement occurring 15 minutes after the injection. A tentative diagnosis of myasthenia gravis was confirmed in the 8-year-old girl 20 minutes after the intramuscular administration of 0.5 mg. of neostigmine; the ptosis subsided, the left medial rectus showed normal movements, the facial expression was alert, and only slight weakness of the extraocular muscles remained. The child was placed on treatment with 15 mg. of neostigmine and 0.4 mg. of atropine 3 times daily. The ptosis and ocular paralysis were definitely improved, but gastrointestinal cramps and diarrhea, which are not infrequent side-effects of the medication, induced the author to withdraw neostigmine and to administer pyridostigmine (Mestinone) bromide, which seems to give a more prolonged effect and to have fewer unpleasant side-effects. Five months later an improvement in the ptosis and diplopia was noted, and the child's activities became entirely normal. The myasthenia gravis in the third child was almost solely limited to the eyelids. No appreciable effect on the ptosis was noted after the intramuscular administration of neostigmine and edrophonium; however, an almost immediate transitory improvement in the ptosis was noted after edrophonium was given intravenously. The child then showed slight improve-

ment when 7.5 mg. of neostigmine was given 4 times a day. This child apparently was resistant to treatment.

The diagnosis of myasthenia gravis in children depends on the awareness of the disease by the ophthalmologist. The disease may simulate intracranial injury and the bulbar form of poliomyelitis, but the diagnosis can be definitely established by noting an immediate improvement in the signs and symptoms after the administration of neostigmine or edrophonium, while no improvement occurs in the other two conditions. Myasthenia is not uncommon in children. The prognosis is better in children than in adults; remissions are much longer, the muscle involvement is more often limited to or largely affecting the ocular muscles, and the mortality rate is lower than in adults.

A Study of Fourteen Cases of Pulmonary Hyaline Membrane Disease. F. D. Leigh. South Dakota J. Med. & Pharm. **11**:171-174 (May) 1958 [Sioux Falls].

The author reports on 14 newborn infants with pulmonary hyaline membrane disease admitted to St. John's Hospital, Huron, S. D., between 1947 and 1957. Thirteen of these infants died. Pulmonary hyaline membrane disease occurs frequently in premature infants, in infants delivered by cesarean section, and in infants born of diabetic mothers. There seems to be no agreement as to the causation or pathogenesis of this disease, which may not be an entity in itself but part of a much larger syndrome. The type of treatment is symptomatic and supportive. It was quite inadequate and ineffective in the present series, as shown by the high mortality rate. Better prenatal care, good obstetric management during delivery, discretion in the prescribing of ante partum medication and the use of anesthetics in the course of delivery, and good judgment as to when a cesarean section or an elective induction should be performed are of utmost importance. Every effort should be made to prevent any complications of pregnancy or delivery that might cause premature delivery or cerebral anoxia in the child. Trauma to the baby during and directly preceding birth might be a consistent common causative factor.

THERAPEUTICS

Prednisone and Prednisolone in Chronic Allergic Diseases. H. Sherwood and J. H. Barnard. J. Allergy **29**:222-226 (May) 1958 [St. Louis].

This study is a continuation of one on which a preliminary report was made in 1955. At that time only 8 patients with bronchial asthma had been treated for only 4 weeks. No side-effects were found during that time. The dosage of prednisone and prednisolone necessary for symptomatic relief was one-half to one-third that of hydrocortisone, with which these patients were treated previously. The present report is concerned with the treatment of 58 patients. Thirty-seven had asthma, 9 had seasonal rhinitis, 4 had perennial rhinitis, and 8 had dermatitis. These patients were followed from 7 weeks to 16 months. All patients were being treated with specific injection therapy, sympathomimetics, antibiotics, and any other symptomatic therapy necessary. Most of the patients with asthma had other disorders as well. Good clinical response was obtained with relatively small doses of prednisone and prednisolone. In 30 of the 37 asthma patients control was maintained with 15 mg. or less per day. The remaining 7 were controlled with 20 to 40 mg. per day. Satisfactory response to the drug was not influenced materially by the presence of complicating diseases, age, duration of symptoms, or severity of the disease itself.

Excellent results were obtained in chronic dermatitis, perennial rhinitis, and seasonal rhinitis with smaller doses than were required for asthma. No side-effects were observed. There were strikingly fewer complicating diseases noted in these 3 types of allergic conditions. Side-effects in 4 patients with asthma included peripheral edema in 3, with moon facies in 3 plus an increase in hypertension in 1. In each case the side-effects were mild and did not require cessation of the drug. These patients were over 40 years of age, the symptoms were of long duration, and 3 of them had particularly serious complicating diseases.

Oral Mercurial Diuretic (3-Hydroxymercuri-2-Methoxy-1-Succinimidopropan, Theophyllin, H_2O) in Chronic Heart Failure: Clinical Investigations and Evaluation. T. Flatmark and H. S. Mathisen. Tidsskr. norske lægefor. **78**:405-409 (May 1) 1958 (In Norwegian) [Oslo].

Clinical tests of a new oral mercurial diuretic, Oralyl (3-hydroxymercuri-2-methoxy-1-succinimidopropan, theophyllin, H_2O), are reported on. A total of 103 controlled experiments were carried out in 69 patients, 27 men and 42 women, aged mainly between 60 and 80 years, having chronic heart failure with edema. The heart defect was arteriosclerotic in 46 cases, hypertonic in 12, rheumatic in 10, and congenital in 1. The investigations confirmed that Oralyl is a good diuretic with few side-effects. Gastrointestinal side-effects are the most frequent, and Oralyl should not be given to patients with marked disease in this system. The preparation must, of course, not be applied in cases where mercurial diuretics generally are contraindicated. Satisfactory diuretic effect was obtained with small doses. Two tablets of Oralyl (20 mg. of mercury) daily after breakfast for 5 or 6 days are an advantageous dosage. The side-effects are fewer on intermittent treatment than on continuous treatment.

The danger of hypochloremic alkalosis, hyponatremia, and hypopotassemia is less on intermittent treatment than on continuous treatment.

Treatment of Ragweed Hay Fever with Methylprednisolone (Medrol): Comparative Effectiveness of Methylprednisolone and Prednisolone. E. B. Brown, T. Seideman and A. B. Seigelaub. J. Allergy **29**:227-232 (May) 1958 [St. Louis].

This study is concerned with 131 patients who either had responded poorly to courses of hyposensitization or had received no previous treatment. Of these, 44 were treated with prednisolone, 42 with methylprednisolone (Medrol), and 45 served as controls. The latter were allowed to take any medication necessary, except the corticosteroids, for symptomatic relief. A previous study had shown that 20 mg. of prednisolone a day was adequate to give at least 75% relief in 75 out of 79 patients. Since Medrol was presumed to be one-third more potent, a dosage of 15 mg. per day of each drug was arbitrarily chosen. The study was conducted during the 1957 ragweed hay fever season, and the double-blind method was used. Methylprednisolone was shown to be slightly more potent than prednisolone and to have fewer side-reactions than prednisolone in all patients studied. A daily dosage of 15 mg. of either drug was inadequate to control symptoms satisfactorily when the pollen count was at its highest, that is, when it was over 80. Below this count this dosage was adequate. In all probability, doubling the dosage would abolish the symptoms in these cases.

Aerosolized Steroids in Bronchial Asthma. W. Franklin, F. C. Lowell, A. L. Michelson and I. W. Schiller. J. Allergy **29**:214-221 (May) 1958 [St. Louis].

In previous studies reporting benefit from steroids given by aerosol, lack of adequate controls and administration of amounts which would be effective if absorbed systemically make the conclusions questionable. The object of the studies described was to deliver to the surface of the airway an amount of steroid which would be effective and yet would not constitute a therapeutic dose if given by mouth. After an aerosol of prednisolone had been used on a few patients, the authors gained the impression that it was therapeutically effective when 6 inhalations were taken 6 times per day from a Medihaler containing 5 mg. per milliliter of prednisolone suspended in Freon. They then proceeded to test this impression with rigid controls. According to the toss of a coin, one member of each pair was given the placebo suspension and the other was given the suspension of prednisolone. Six of 13 patients were considered to have obtained a therapeutic effect. In every instance in which the preparation was deemed effective, it proved to be prednisolone. Where the preparation was deemed ineffective, it was prednisolone in 1 instance and placebo in 6. Hydrocortisone aerosol was used in 47 therapeutic courses in 39 asthma patients. In 31 courses treatment was rated as effective, in 7 it was ineffective, and in 9 effectiveness could not be decided. The authors found that the topical therapeutic effects of the steroids prednisolone and hydrocortisone, suspended in Freon propellant and administered as aerosols to asthmatic patients, appeared to be approximately equivalent to a daily dose of 40 mg. of hydrocortisone taken by mouth. Since this paper was completed, another study, also with the double-blind technique, has appeared, which indicates that hydrocortisone given as an aerosol can have a topical effect in asthma.

Diethylstilbœstrol Diphosphate, "Honvan" (ST 52-Asta), in Intravenous Tumour-specific Chemotherapy of Metastatic Carcinoma of the Prostate. C. C. Hansen. Acta chir. scandinav. **114**:398-413 (No. 5) 1958 (In English) [Stockholm].

A German proprietary preparation of diethylstilbestrol diphosphate, Honvan (ST 52-Asta), was administered intravenously to 20 patients with cancer of the prostate. These patients were followed up for 2 to 21 months. The diagnosis was based on positive findings by at least 2 of the following methods of examination: rectal examination; determinations of serum phosphatase levels, comprising total acid, prostatic, and alkaline phosphatases in the serum; roentgenologic visualization of bone metastases correlated with the serum alkaline phosphatase values before diethylstilbestrol diphosphate therapy and during the first few months after its institution; vesiculography; and histological examination of removed prostatic tissue. The patients first were given 500 mg. of diethylstilbestrol diphosphate by slow intravenous injection daily for 10 days, followed by 250 mg. daily for 10 to 20 days and then by slowly decreasing doses. This schedule was found to be inadequate, and the following schedule was used: 750 mg. of the drug daily for 10 days by intravenous drip infusion in 500 cc. of dextrose–sodium chloride solution, followed by 500 mg. of the drug daily until acid and prostatic phosphatase values had approached normal values and the alkaline phosphatase level began to drop after the initial increase; then 250 mg. of the drug was given daily, or 500 mg. every other day; and, finally, 250 mg. was given once or twice weekly until the level of serum alkaline phosphatase had been normal for about two months. The highest total dose was 130 Gm. given in the course of 10 months.

Results of treatment were as follows: Fifteen patients had less difficulty in urination; relief from pain in the regions involved by the metastases was obtained by 15 patients, 12 of whom became almost

free of any pain; soft tissue metastases disappeared in 4 patients; regression of metastases of the pelvic bones was revealed by roentgenograms in 7 patients. There was a fall in all serum phosphatase values after an initial increase in serum alkaline phosphatase levels. Undesirable side-effects consisted of burning pain in the anal region, dizziness and nausea, conjunctivitis, circulatory disturbances, and reddening of the facial skin. Diethylstilbestrol diphosphate therapy is superior to other forms of estrogen therapy; it is of value even in patients in whom administration of diethylstilbestrol (Stilbestrol) has failed, although it is less effective in these patients than in those who have not received previous estrogen therapy.

PATHOLOGY

Primary or Idiopathic Diabetes Insipidus: A System Disease. H. Blotner. Metabolism 7:191-200 (May) 1958 [New York].

The author reports on 2 men, aged 41 and 73 years, respectively, and on an 87-year-old woman whose death occurred from true idiopathic diabetes insipidus. At autopsy microscopic examination of the brain revealed in the woman and in the older man a marked loss of characteristic nerve cells in the supraoptic nuclei, and a considerable degree of localized astrocytic proliferation was also noted in the same region. The paraventricular nuclei likewise showed some cell loss, although to a less degree than the supraoptic nuclei. The posterior lobe of the pituitary was normal on routine microscopic examination in all 3 patients, although it was somewhat reduced in size; no neurosecretory granules were noted in this lobe in the woman when Gomori's stain was used.

The neuropathological findings in these patients suggest that idiopathic diabetes insipidus is due to a degeneration of the supraoptic nucleus and that this degeneration is primary and is of unknown cause, since no pathological findings were noted to which the degeneration might have been secondary. The cell loss and reactive gliosis in a neural system making up a physiological unit suggest a system disease in which physiologically related nerve cells degenerate and die for no, as yet, explained reason. The author's new concept is, therefore, that idiopathic diabetes insipidus is a system disease resulting from a primary degeneration of the supraopticohypophyseal system without obvious reason. Of 124 cases of diabetes insipidus in which a causative classification was carried out, the largest group of 56 cases (45%) was idiopathic. There were no clinical abnormalities or manifestations of disease in these idiopathic cases, except for polyuria, polydipsia, and thirst. In none was the cause of the disorder clinically apparent.

Distribution and Significance of Asian and Other Influenza Antibodies in the Human Population. M. R. Hilleman, F. J. Flatley, S. A. Anderson and others. New England J. Med. 258:969-974 (May 15) 1958 [Boston].

Blood samples were collected from 285 persons, between the ages of 1 and 95 years, in Washington, D. C. These blood samples were taken before the widespread epidemic occurrence of Asian Influenza in the United States and before any unusual prevalence of respiratory illness in the Washington area. All serums were stored frozen at —20 C for periods up to 9 months before testing. The serums were assayed for the presence and the amount of hemagglutination inhibitory antibody against prototype influenza strains that represent the Swine, PR8, A′, and Asian families of influenza A, the FM_1, Scandinavian/53 and Dutch/56 subgroups of influenza A′, and the Lee, Bon, and Great Lakes/54 families of influenza B. The distribution of antibody against these viruses was oriented in the various age groups to the particular family of virus that was predominant during the early life of the donors. The high level of antibody against Swine and PR8 families and against the FM_1 and Scandinavian/53 subgroups of influenza A′ was consistent with the nonexistence or nonoccurrence of these forms in the human population during the contemporary period. The antibody level against the Dutch/56 subgroup was so low as to suggest that it, along with Asian influenza, will continue to cause significant illness in the future. The levels of antibody against all 3 families of influenza B, including the contemporary strain, were so great as to suggest only sporadic illness or occurrence in small epidemics of influenza B in the near future. There was a striking deficiency of antibody against Asian influenza virus in the serums. However, apparent antibody in low level was present in serums from persons over 40 years of age. This seems to have resulted more from experience with a wide composite of influenza antigens, some of which are present in the Asian virus, than from prior infection with the Asian virus itself.

Although the current pandemic of Asian influenza has resulted in widespread infection throughout the world population, it can be assumed that not all susceptible persons have been infected and that the immunity arising from infection is not permanent. It is expected, therefore, that the Asian virus will continue to be important in causing further disease for an indefinite period in the future, though to a far less extent than during the current pandemic wave. The antigenic difference between contemporary A′ virus and Asian virus is so great as to suggest that neither will exclude nor replace the other. Instead, illness caused by both viruses may be expected to continue.

BOOK REVIEWS

Florence Nightingale and the Doctors. By Zachary Cope. Cloth. $5. Pp. 163, with 13 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; 4865 Western Ave., Montreal 6, Canada; Museum Press, Ltd., 26 Old Brompton Rd., London, S. W. 7, England, 1958.

It is assumed by most of us that nursing as a profession began about 1854 during the Crimean War. Not so. It probably began when the first toddler stubbed his toe and fell, bruising some part of his body. Mothers were the first nurses. As for history, we know that with the foundation of the first hospitals women were there to give aid and comfort to the sick. Hildegarde, Abbess of Rupertsburg, in the 12th century organized a school for nurses to serve in hospitals. In fact, Florence Nightingale got her initial training in the institute founded by St. Vincent de Paul in Paris. She also worked with the Protestant Deaconesses at Kaiserswerth, Prussia. In 1840, a Mrs. Fry set up the Nursing Sisters Society to care for the outcasts in London. Miss Nightingale, much against the wishes of her family, managed to be assigned to the military services and was sent to the Crimea with 37 other nurses. She was largely responsible for the organization and coordination of women in caring for soldiers in the Near East. It was fortunate that Miss Nightingale had such a fine friend in Sir John Sutherland. He managed to obtain an interview for her with Queen Victoria, and thereafter her prestige was well established so that she could get a hearing with anyone in authority whom she wished to reach. Dr. Sutherland was a member of the Army Sanitary Commission, and the two working together had a free hand in all medical matters. They were "experts in sanitation," a phrase difficult to interpret from a modern standpoint. Neither of them believed in the germ theory of disease, and, although asepsis was unknown to them, they must have understood the Biblical idea of cleanliness. They were close friends for 36 years, but with not a whiff of scandal.

Florence Nightingale was not the type any man would ordinarily call "sweetheart," but in 1849 Richard Milnes (afterwards Lord Houghton) asked her to marry him. She refused him for her career. It is possible that she realized an error of judgment later, for she became mentally disturbed and was near a breakdown when she visited Egypt the following year. She ultimately became a psychoneurotic person, and in her latter days (she lived to be 90 years old) she shut herself away in her room, saw no one, and did all her work through writing. In fact, she was an avid writer. There are in the British Museum some 150 volumes of her letters and notes. She even wrote to Sir John instead of seeing him, sometimes when they were in the same house and in adjoining rooms. In the Scutari campaign she had enormous authority and could make or break anyone according to her whims—and often did so. The doctors, who were for the most part political appointees, feared and sometimes hated her. At first she was regarded as a nuisance, a female interloper who had usurped authority. Not much is known concerning her care of the sick and wounded. We do not see her going from bed to bed soothing the fevered brow or writing letters for soldiers too ill to do so for themselves. Tea and port wine seem to have been the chief forms of "medication." Many books and articles have been written about Miss Nightingale and her heroism, her sweetness of disposition, her leadership, her self-sacrifices, and her love of humanity. Doubtless she had a measure of all these qualities. She certainly was a remarkable person—brilliant, well-poised, effective in getting things done, vigorous, and more often right than wrong—but, in her latter days at least, she was bitter and secluded, psychoneurotic, and still arrogant and unbending. In the latter part of this book is a portrait of her in her old age. It is surprising how much she resembled Queen Victoria.

Nationalizations—Ten Years Later. By Dr. Melchior Palyi. Paper. 50 cents; reduced price for lot quantities, Pp. 38. Heritage Foundation, Inc., 121 W. Wacker Dr., Chicago 1, n. d.

This pamphlet is by the author of the previously published "Compulsory Medical Care and the Welfare State." In discussing the wave of nationalization that began sweeping over Europe about 10 years ago, the booklet emphasizes the failure to celebrate the 10th anniversary of collectivism by those who have subjected themselves to this type of rule. There is a special chapter on socialized medicine that demonstrates how the total cost of medical services kept growing while the services a patient received in return suffered from the so-called something-for-nothing philosophy. The cost of government medicine in England is now three times more than originally estimated and amounts to more than 10% of the national budget. More important, it is pointed out how the doctor-patient connivance that socialized medicine engenders has turned out to be a prime source of reduced labor productivity by way of enhanced absenteeism. All that is required from the physician is to please the customer. The general practitioner has been described by successive ministers of health as an agent who sorts out the patients and relieves himself of legal and moral responsibilities by unloading his patients on the specialists. The four pages on socialized medicine of this small pamphlet are well worth the attention of every physician. When taken

in context with all the other evils of socialism, they have an even deeper significance—it could happen here. Certainly, the patient, not the doctor, suffers from socialized government, and only repeated reviews of how central bureaucracy functions, especially in medicine, will rid a "free" country from lassitude. This booklet is a searching and enlightening analysis that should prove of interest to all thoughtful persons.

Vitallium Mould Arthroplasty for Osteoarthritis of the Hip Joint: A Study of the Ability of the Method to Create a New Joint in an Anatomical-Physiological and in a Clinical Sense. By Arnt Jakobsen, M.D., Staff-Surgeon, Oslo City Hospitals, Norway. Cloth. $9. Pp. 238, with 52 illustrations. The Macmillan Company, 60 Fifth Ave., New York 11, 1957.

This monograph represents the author's analysis of 301 cases of arthroplasty of the hip performed by several surgeons. The author personally saw and reexamined each of these patients in his follow-up studies. The reported results cover periods of one to seven years after arthroplasty. Most of the arthroplasties were done on the technique of Smith-Petersen, with use of a vitallium cup. The author emphasizes his desire to determine the ability of the vitallium mould arthroplasty to create a new joint in an anatomical and physiological, as well as a clinical, sense. Experimental studies with rabbits demonstrate regeneration of articular cartilage within the cup and a normal appearing synovia lining the soft tissues of the hip joint. The author spent 10 months in the United States as a Fulbright traveling fellow and worked at the Massachusetts General Hospital, where he was inspired by the work and personality of Dr. Smith-Petersen. The end results reported in this monograph should be encouraging to all orthopedists who have had less satisfactory results from various types of arthroplasties. The translation of this book from Norwegian to English has been well done. The illustrations are excellent, and the book is easy to read.

The Tissues of the Body: An Introduction to the Study of Anatomy. By W. E. Le Gros Clark, F.R.S., Dr. Lee's Professor of Anatomy in University of Oxford, Oxford, England. Fourth edition. Cloth. $9.75. Pp. 415, with 127 illustrations. Oxford University Press, Amen House, Warwick Sq., London, E. C. 4, England; 114 Fifth Ave., New York 11, 1958.

This book, now in its fourth edition, is a recognized textbook for students and also a general reference work. It has found a definite place between the study of microscopic anatomy and that of gross anatomy, but the study of tissues must depend on a preliminary study of cells. This is a review of embryology and the basic anatomy of cells from conception and through the processes of development into tissues and organs. Hundreds of books have been written with similar contents. One then must look for methods of presentation which will entice the student and stimulate him to read and study deeply, but in this book the style is pedestrian and wordy and fails to hold one's attention as well as it should. It is heavy reading, and one has to dig out the meaning from many of its sentences. The author says that parts have been rewritten, but it is hard to tell which parts. He also says that four figures have been replaced. With so few changes, one wonders why a new edition was needed. The illustrations are in black and white. In these days one looks for color and finds it in many of the newer textbooks, in spite of greater costs. Now that microbiology is coming into its own, study of cells rather than of tissues is in the ascendency.

Applied Physiology of the Eye. By H. Willoughby Lyle, M.D., F.R.C.S. Assisted by T. Keith Lyle, C.B.E., M.A., M.D. Cloth. $9. Pp. 341, with 32 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; Baillière, Tindall & Cox, 7 and 8 Henrietta St., Covent Garden, London, W. C. 2, England, 1958.

Ocular physiology is presented from a clinical viewpoint in this new treatise completed after the death of the senior author. The book is quite British in that there is almost no reference in the bibliography to any publications outside of Great Britain. The writing is concise and not as detailed or inclusive as in the comparable textbook by Adler. It is, therefore, of less value than the latter as a reference work but, on the other hand, can be more readily read and assimilated by the graduate student preparing for his board examination. Illustrations are limited to original drawings. Two interesting features in the back of the book are a list of Greek roots of important words and a list of ophthalmological eponyms.

Leptospirosis in Man and Animals. By J. M. Alston, M.D., F.R.C.P., and J. C. Broom, O.B.E., M.D. With chapter on legal responsibility by C. J. A. Doughty, B.A. Foreword by Sir Samuel Bedson, M.D., D.Sc., F.R.C.P. Cloth. $8.50. Pp. 367, with 36 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 and 17 Teviot Place, Edinburgh 1, Scotland, 1958.

This monograph by two British physicians gives detailed coverage of every aspect of leptospirosis, a disease in which man is an accidental host of the causative organism. The true host is the family Muridae (rats, mice, voles, lemmings, and others). In so far as possible, the book is written in historical sequence. Section 1 discusses the morphology, classification, physiology, and distribution of Leptospires; section 2, leptospirosis in man, with a contributed chapter on the legal aspects in England and Wales of the contraction of leptospirosis; section 3, leptospirosis in animals; and section 4, leptospirosis in regions most affected. This is followed by an appendix dealing with culture mediums and laboratory techniques, a list of books and a list of references to periodical literature, a subject index, and an author index. The authors are to be commended for bringing a large amount of material together in one authoritative volume.

QUESTIONS AND ANSWERS

TREATMENT OF POISONOUS SNAKE BITES

To the Editor:—*In medical schools, not so very long ago, students learned to treat bites from snakes of venomous species by the slash-and-suck method: apply a tourniquet, make cuts, apply suction, and follow the subsequent swelling areas by further cuts and suctions. This procedure, of course, is to be supplemented by use of antivenin as soon as it can be procured. Even the manufacturers of this agent, however, include with their packets a brochure which, if followed, should leave the patient in a condition resembling raw hamburger—although alive, provided one of the several cuts required does not hit an important blood vessel. One gathers therefore, that the slashing and sucking procedure is still considered to be a relatively important part of the treatment of snake bite. But what about the "newer" methods of treating poisonous snake bites? Please comment on these.*

Alfred B. Mason, M.D., Concord, Calif.

Answer.—At present, there is no one-shot remedy for treating poisonous snake bites. The poisonous snakes indigenous to the United States are the pit vipers (rattlesnakes, cottonmouth moccasins, and copperhead moccasins) and the coral snakes. Since coral snakes inflict less than 1% of all snake bites and since they caused only 1 of 71 deaths due to snake bite in the United States in the period 1950-1954, these remarks will be limited to the treatment of pit viper venom poisoning. Current snake bite treatment consists of a combination of medical and surgical measures. A tourniquet applied tight enough to occlude the superficial venous and lymphatic flow has been shown to prolong the survival time, but it does not prevent death (Pope and Peterson, *Arch Surg.* **53**:564, 1946). Incision and suction is effective in removing up to 4 units of the minimum lethal dose of pit viper venom (Jackson and Harrison, *J. A. M. A.* **90**:1928-1929 [June 16] 1928). These incisions should be about ¼ in. long and ⅛ to ¼ in. deep. If the patient is seen within two hours after the bite, 5-10 incisions spaced in the area of swelling usually are sufficient. Occasionally, more incisions are indicated, but, in general, they are most effective while the venom is still localized. These incisions are not mutilating or unduly painful, owing to the effects of the venom. Cruciform incisions are not necessary; linear incisions following Langer's lines are just as effective in removing venom and leave fewer detectable scars. Suction over these incisions should be maintained continuously for about two hours, then intermittently for another two to four hours depending on the severity of the bite. "The three A's"—antivenin, antibiotics, and antitoxin—have been recommended, in addition to a tourniquet and incision with suction, for treating all serious poisonous snake bites (Watt and others, *North Carolina M. J.* **17**:174, 1956). Antivenin (crotalidae) polyvalent is effective against the venom of all North American pit vipers; it is not effective against coral snake venom. The manufacturers recommend from one to five ampuls (10 to 50 cc.) injected intramuscularly. The dose of antivenin depends on the severity of the bite and the size of the individual. A skin test should be performed before administering antivenin, since it is made from horse serum. Enteric and coliform organisms have been reported as the predominating bacteria in snakes' mouths and venom glands; hence, a wide-spectrum antibiotic should be given to combat infection (Parrish and others, *Virginia M. Month.* **83**:383, 1956). Also, tetanus toxoid and/or antitoxin are indicated, since snake bites produce contaminated, necrotic puncture wounds. Epinephrine solution (1:1,000), 3-5 minims, and intravenously given saline solution, plasma, and whole blood are useful to combat the shock and hypotension which invariably follow severe envenomization. Morphine or meperidine hydrochloride may be given to alleviate pain. There has been a recent tendency in medical practice to rely on cortisone acetate, ACTH, and the antihistamines for the primary treatment of snakebites. Cortisone and ACTH may reduce fever, pain, and local tissue sloughs, but they do not prevent death and should not be used as the only treatment (Allam and others, in Venoms, edited by Buckley and Porges, Washington, D. C., American Association for the Advancement of Science, publication 44, 1956). Antihistamine drugs are contraindicated in pit viper venom poisoning (Schöttler, *Am. J. Trop. Med.* **3**:1083, 1954; Parrish and others, *J. Am. Vet. M. A.* **129**:522, 1956). The ligature and cryotherapy method of treating snake venom poisoning, including the use of ice and ethyl chloride (Stahnke and others, *Am. J. Trop. Med.* **6**:323, 1957) cannot be recommended until there is adequate experimental evidence that it is beneficial and not harmful to the patient.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any medical or other organization unless specifically so stated in the reply. Anonymous communications cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

TO THE EDITOR:—*Please give information on any recent progress in the treatment of the poisonous snake bite, especially that of the rattlesnake. It has been said that the U. S. Army has recently used a form of treatment with local freezing with ethyl chloride. If this method is in use, what are the details of it?*

Ralph C. Ellis, M.D., Ogden, Utah.

ANSWER.—The U. S. Army recommends two phases of action after a person has been bitten by a venomous snake. The first phase consists of immediate first-aid treatment. This will vary from mere avoidance of overexertion to incision and suction at the site of the fang marks. The most important part of the first-aid treatment is believed to be the reduction of physical activity to permit the slowest possible absorption of venom into the circulatory system. The second phase consists of administering such definitive therapy as may be indicated and is available. There are several medical groups whose ideas on the treatment of poisonous snake envenomization are controversial. The specific measures to be instituted in each case vary accordingly. Cryotherapy is a therapeutic adjunct recommended by one of these groups. The use of ethyl chloride as one means of supplying cryotherapy in cases of snake envenomization is not generally accepted and is not recommended by the U. S. Army Medical Service. The one point of agreement by all groups appears to be the administration of an antivenin as quickly as possible, provided precautionary measures have been taken to insure that no undue allergic reaction ensues. Research is being conducted by other agencies in this field in an attempt to provide information which will eventually furnish the medical profession with a sound basis for procedure.

PLANTAR PRURITUS

TO THE EDITOR:—*A 26-year-old man has vesicular lesions and severe pruritus on the sole and sides of the left foot. There are no lesions between the toes, but the appearance of this condition resembles a dermatophytosis. Zincundecate, diamthazole dihydrochloride, a proprionate-caprylate mixture, potassium permanganate, formaldehyde, and salicylic acid in alcohol have been tried with no result. This condition is present all year but becomes more active in the spring and summer, having become progressively worse over the past eight years. What can be done to help this patient?* *M.D., New Mexico.*

ANSWER.—A vesicular eruption on the feet is usually due to infection with tinea or bacteria, to so-called dyshidrosis, to materials in shoes, or, occasionally, to the disease epidermolysis bullosa or as a manifestation of pustular psoriasis or bacterid. It is difficult to explain the occurrence on one foot only in any of these diseases. At any rate, the vesicles, roof and fluid, should be examined for the presence of organisms and cultures should be made. Allergy to materials in the shoes should be ruled out by means of a usage test (avoiding a pair of shoes for a time and then wearing that pair daily) and by patch tests. The latter diseases are determined by means of accurate history and, in some cases, by biopsy. Relief from discomfort can usually be obtained by the application of cool wet packs of either a solution of potassium permanganate, 1:3,000, or a 0.5% solution of aluminum subacetate. Further treatment would depend on the diagnosis.

TUBERCULOSIS AND HISTOPLASMOSIS

TO THE EDITOR:—*Some farm families seem to have a high incidence of positive skin tests (patch and intradermal) and roentgenograms of the chest indicating minimal to major involvement with tuberculosis and/or histoplasmosis. All raise chickens and have done so for many years. In most of the cases a differential diagnosis has been impossible. Are tuberculous patients being exposed to histoplasmosis or vice versa in the sanatoriums? Is tuberculosis diagnosed in patients with histoplasmosis? Roentgenograms, skin tests, and sputum examinations are too unreliable to justify a long institutional stay for patients in whom no causative organism can be definitely identified.*

M.D., Ohio.

ANSWER.—There is no danger in exposing patients with tuberculosis to patients with histoplasmosis, since the latter disease is not infectious from person to person. It is acquired after exposure to contaminated soil or debris at a point source. Chicken coops are common point sources, and, in a survey performed in Missouri, almost one-third of the chicken coops in the area had the organism Histoplasma capsulatum isolated from the debris and droppings. Although chicken droppings provide an excellent culture medium for the growth of the organism, chickens are not infected or involved in the transmission of the disease. The reverse situation of exposure of patients with histoplasmosis to tuberculosis is entirely possible. About 12% of patients with proved cases of histoplasmosis have concomitant tuberculosis. Most of these patients are found in sanatoriums, since the disease is clinically and radiographically indistinguishable from reinfection tuberculosis. Whether or not these patients had tuberculosis prior to admission or acquired it after admission to the sanatorium is a moot point. The addition of routine serologic tests for histoplasmosis to the examination of patients in sanatoriums in endemic areas has proved valuable, since a positive titer of 1:8 or greater in the complement fixation test is indicative of active disease. In some sanatoriums, as many as 10% of the patients have been shown to have this disease on the

basis of such surveys. Fungus cultures of sputum should also be made to aid in establishing a diagnosis, especially in serologically positive cases.

IMMUNIZATION OF INFANT WITH NEPHROSIS

To the Editor:—*A 16-month-old boy is in remission from a first episode of the nephrotic syndrome. Since the Salk poliomyelitis vaccine is grown on monkey kidney, is there a possibility of a reaction? Would it be safe to go ahead with poliomyelitis immunization?*

Jack Markovitz, M.D., Racine, Wis.

Answer.—In many studies of the Salk vaccine as related to kidney cell sensitivity, nothing has been discovered to indicate the likelihood of a reaction. This was one of the early concerns in the use of the experimental vaccine. Many children with nephrosis have been given routine immunizations, including that with Salk vaccine, with no ill-effect. There is almost no reaction to Salk vaccine anyway. Routine immunization, including that to poliomyelitis, can be accomplished with safety.

INADVERTENT NERVE INJURY FOLLOWING INJECTION

To the Editor:—*There is considerable dearth of information about ill effects from intraneural injections. A patient, aged 43, emaciated by reticuloendotheliosis (lymphoma), was given by a nurse, for sedative and antiemetic purposes, successive injections of amobarbital sodium, 500 mg., and chlorpromazine hydrochloride, 25 mg., into his left buttock. The injection marks are close together right over the course of the sciatic nerve in the gluteal fold. He had immediate paresthesia down to the left toes with the amobarbital sodium injection and a foot drop the next day. An associated slight weakness of hamstring and gastrocnemius muscles cleared rapidly. After three years, the dorsiflexor muscles of the foot made only the slightest recovery, the sensory loss improved, and the gastrocnemius reflex remained absent. The patient is at present using a brace. Electromyography shows denervation potentials. The substances which were given appear to be harmless; the use of similar substances for conduction anesthesia is an accepted routine. Why did the common peroneal nerve not recover? Is the reticuloendotheliosis contributory?*

Francis Schiller, M.D., San Francisco.

Answer.—Most reference works in neurology contain information concerning secondary inadvertent injury of the sciatic nerve due to local injections into the buttock muscles of various substances, such as mercury, arsenicals, quinine, paraldehyde, bismuth, and urethan and various antibiotics, such as penicillin. Specific references to amobarbital sodium and chlorpromazine have not been made; however, in most instances the effect on the nerve is probably traumatic, related directly to the physical injection and the fluid pressure, and not toxic due to the substance itself. In the case under inquiry, the lack of recovery of the common peroneal nerve is not understood completely; however, this nerve is known to be most sensitive to trauma, becoming more intensely involved and having a much slower recovery than other nerves of the lower extremity. It is phylogenetically younger, and perhaps this bears some relation to the process. The clinical status of the lymphoma is not clearly enough described in the patient to warrant any discussion as to whether it contributed to the sciatic nerve disturbance. It might be possible that the nerve was involved by the disease process and thus predisposed to a traumatic effect, but more information would be needed to clarify this.

POSTVACCINAL POLYNEURITIS

To the Editor:—*Have there been any reports of acute infectious polyneuritis after intradermal injection of 0.1 cc. of Asian influenza vaccine?*

David D. Detar, M.D., Pottstown, Pa.

Answer.—Up to the present, to the knowledge of this consultant, there have been no instances of an acute infectious polyneuritis (Guillain-Barré syndrome) developing after vaccination for Asian influenza. This syndrome often follows mild infections of the respiratory tract and has developed after, or in association with, influenza, measles, chickenpox, infectious mononucleosis, and infectious hepatitis. Also, it has developed after vaccination for rabies, smallpox, and the typhoid diseases and after serum therapy. Therefore, a polyneuritis could possibly follow vaccination for Asian influenza. However, it would be extremely unlikely for it to develop after a single 0.1-cc. intradermal injection.

URINARY EXCRETION OF WATER-SOLUBLE VITAMINS

To the Editor:—*What is the average total urinary excretion in healthy individuals of riboflavin, thiamine, pyridoxine, and vitamin B_{12}? Is there any water-soluble vitamin that is not excreted in the urine?*

Robert S. Faircloth, M.D.
Fort Lauderdale, Fla.

Answer.—According to the book "Standard Values in Nutrition and Metabolism" (edited by E. C. Albritten, Philadelphia, W. B. Saunders Company, 1954), the average levels in the urine of these substances are as follows: riboflavin, 14.3 mcg. per kilogram of body weight per day; thiamine, 2.6; pyridoxine (including pyridoxal and pyridoxamine), 4.6; and vitamin B_{12}, 0.0004. For a person weighing 70 kg. (156 lb.), the respective values

would be 1 mg., 0.2 mg., 0.3 mg., and 0.03 mcg. per day. These values compare with the allowances of 1.6 mg., 1.6 mg., about 2 mg., and about 4 mcg. respectively. All of the water-soluble vitamins are excreted to some extent in the urine.

BLACK COFFEE ENEMA

To the Editor:—*When a patient is semicomatose or comatose from the ingestion of soporifics or morphine and related drugs, does an enema of black coffee have any merit in addition to other treatment?*

Jules Magnette, M.D., Reno, Nev.

Answer.—A cup of coffee contains about 150 mg. (a therapeutic dose) of caffeine and may be of some value in mild depression of the central nervous system. Enemas of black coffee were formerly advocated for severe depression induced by such drugs as morphine and hypnotic agents. However, adsorption of caffeine is slow and erratic by this route. Furthermore, even when administered parenterally caffeine is less effective than other central nervous system stimulants. Hence, when other treatment is available an enema of black coffee has nothing to offer.

SUDDEN WITHDRAWAL OF CORTISONE

To the Editor:—*A woman, aged 50, has been on prolonged treatment with cortisone for osteoarthritis. After abrupt cessation of therapy she went into an agitated depression. Is there a causal relationship, and, if so, what is the prognosis? Is psychotherapy or electroshock therapy indicated?*

M.D., Florida.

Answer.—Psychotic reactions in patients during treatment with corticosteroids have been widely reported. The symptoms may resemble a toxic delirium with defects in sensorium, reduced awareness, loss of orientation, hallucinations, delusions, and mood changes. Affective psychoses manifesting mainly severe changes in mood, either manic or depressive, are also frequently seen. While there is no doubt that these symptoms are frequently precipitated by steroids, there is no agreement on whether the symptoms are solely due to the effects of the drug or whether the drug merely mobilizes an underlying psychosis in a person with a prepsychotic personality structure. The symptoms often disappear when the drug is withdrawn. Psychotherapy, often in conjunction with electroconvulsive therapy, is the treatment of choice when spontaneous recovery does not occur. Psychotic symptoms occurring after cessation of cortisone therapy might similarly be due to the cumulative effect of the drug that has already been administered, but the onset at the time of a change in the medical regimen suggests an emotional reaction by the patient to this change. Such an emotional reaction might represent the patient's fear of an anticipated recurrence of arthritic symptoms or fear that the discontinuance of the drug therapy may mean her doctor is discouraged or has given up on her. Other misinterpretations by the patient could give rise to other fears and thus could well mobilize an underlying depression. A discussion with the patient of her fears about the withdrawal of the drug may be therapeutic. Otherwise, treatment should be the same as with all depressions, that is, psychotherapy with or without electroconvulsive therapy.

Reference

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RETREATMENT OF ARRESTED TUBERCULOSIS DURING PREGNANCY

To the Editor:—*A woman had a tuberculous lesion in the hilum of one lung which confined her to a sanatorium for two years. She received streptomycin, aminosalicylic acid, and isoniazid. The disease has been arrested for six months. She has now married and become pregnant. Should she receive another course of the same therapy during her pregnancy?*

M.D., Pennsylvania.

Answer.—It would be important to know whether the patient's tuberculous process involved lung parenchyma or was limited to lymph nodes in the hilum region. One should also know whether tubercle bacilli were recovered from sputum. It is not stated whether she received the three major drugs mentioned throughout the entire two years in the sanatorium. For parenchymal lesions discharging tubercle bacilli through sputum, antituberculosis drugs are usually administered for 18 to 24 months, depending on such factors as the extent of the lesions and how they respond. If lesions are confined to hilum lymph nodes and acid-fast tubercle bacilli are not recovered from sputum or gastric washings, a shorter period of drug administration usually suffices. In any event, since the patient's disease has been classified as arrested, another course of drug treatment only because of pregnancy is not indicated. However, as with all persons with tuberculous lesions arrested for only six months, this patient should have periodic examinations over a long period of time because of the possibility of reactivation of the original lesions or areas of disease elsewhere that may evolve to demonstrable and clinical proportions. Tubercu-

losis is notoriously a relapsing disease because the treatment armamentarium has never been able to do more than suppress it—hence the term arrested rather than cured. However, during the past few decades extensive observations have revealed that pregnancy usually does not have a deleterious effect on tuberculosis. Such authors as Litzenberg and Mariette (*Minnesota Med.* 9:129, 1926), McKelvey (in Chest and Heart, vol. 2, edited by J. A. Myers, Springfield, Ill., Charles C Thomas, Publishers, 1948, pp. 1,094-1,110), and Hedvall (*Acta med. scandinav.* [supp. 286] 147:1, 1953) have presented good evidence to this effect.

ANTIGENICITY OF COTTON

To the Editor:—*For some reason, there is a layer of cotton under a perforated porcelain plate on the bottom of a small sterilizer. The boiling water which sterilizes the syringes obviously is in constant contact with the cotton. Since cottonseed oil has highly antigenic properties, could any extract of the cotton enter the syringes and could this give rise to any allergic reactions?*

Henry Krochmal, M.D., Meriden, Conn.

Answer.—Present evidence would seem to indicate that during the process of manufacture cotton is subject to so many different chemical processes that it is rendered nonantigenic. There appears to be no danger of contaminating syringes because they are boiled in a medium which may contain some cotton. It is difficult to understand why cotton would be left in the sterilizer when some other product, such as rubber, could be used to better advantage.

ANTIPYRETIC ACTION OF ASPIRIN

To the Editor:—*How much aspirin is necessary to lower an elevated temperature a specific amount? For example, how much can one expect a temperature of 104 F (40 C), caused by a viral infection, to be lowered by a dose of 5 grains (0.32 Gm.) of aspirin?*

M.D., South Carolina.

Answer.—While, in general, the antipyretic action of acetylsalicylic acid increases with the dose of the drug, it is impossible to predict the effect of the drug in a given individual, due to individual variation. However, according to Barbour (*Arch. Int. Med.* 24:624, 1919), 15½ grains (1 Gm.) of aspirin administered to a febrile individual causes an average fall in temperature of 0.81 C (1.5 F). It has been suggested (Reid, *Scot. M. J.* 2:91, 1957) that the antipyretic action of salicylate may be related to its metabolic stimulant effect. This results in protein breakdown and a loss of water by sweating, which tends to reduce the temperature in the febrile individual. If sweating is impossible, due, for example, to electrolyte imbalance, a rise in temperature may follow salicylate administration. This metabolic stimulant effect might also explain the small rise in temperature that may be seen when febrile individuals are given salicylate.

"LUMPY JAW"

To the Editor:—*The best cow of a dairy farmer's herd has "lumpy jaw." The lesion is still closed, apparently. How much are this farmer's chances of contracting actinomycosis increased? How urgent, if at all, is it for the farmer to remove the affected cow now or later when the lesion is draining?*

M.D., Pennsylvania.

Answer.—So far as is known, actinomycosis is not transferred from animal to animal or from animal to man. The organism Actinomyces bovis is an obligate parasite of animal or man and has never been isolated in nature. It is conceivable that pus draining from open sinuses could contaminate feed with granules that other animals might ingest and, thus, cause infection. However, there has been no known instance of an infection being caused this way.

LITHIASIS AND INTERSTITIAL NEPHRITIS

To the Editor:—*A 65-year-old patient was discharged from the service in World War I because of interstitial nephritis. He was well for many years but then began to have recurrent episodes of renal lithiasis. Could the condition for which he was discharged have so altered the kidney function, and especially calcium metabolism and excretion, as to be a cause of his renal lithiasis?*

M.D., Massachusetts.

Answer.—The question posed presents an interesting medical problem. While it is remotely possible that there might have been certain tubular changes that could affect the ultimate activity of the kidney, it is doubtful whether, after the lapse of a considerable period of years, there would be any connection with the development of recurrent episodes of renal lithiasis. The problem was discussed with other specialists in the field of nephritis, and it is the combined belief of all that the metabolism of calcium and its excretion was probably not altered by the interstitial nephritis the patient is stated to have when discharged from the armed forces.

When the patient needs
predictable central sedation
of any degree –
Luminal is a sedative of choice
– dependable, well-understood,
with a continuous
bibliographic background
of many thousands of
clinical and experimental studies.

LUMINAL®

Winthrop LABORATORIES

... *A dependable Ovoid dosage form for every need –*

Yellow
16 mg. (¼ grain)

Light green
32 mg. (½ grain)

Dark green
100 mg. (1½ grains)

Also elixir, 20 mg. (⅓ grain) per 5 cc. teaspoon.

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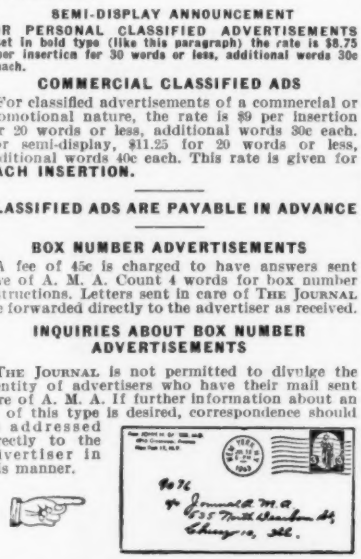

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Physicians who are not members of county medical societies should submit professional references with their advertisements and thus avoid delay.

The right is reserved to reject or modify all advertising copy in conformity with the rules of the Advertising Committee.

All questionable items will be excluded from these columns and notification of any misrepresentation seen by readers will be appreciated.

CLASSIFIED ADVERTISING FORMS CLOSE FRIDAY NOON 15 DAYS PRIOR TO THE DATE OF ISSUE

Journal A.M.A., 535 N. Dearborn St., Chicago 10

NOTICE

McGILL UNIVERSITY, MONTREAL, QUEBEC—Revision course in anesthesiology, Monday, September 8th to Saturday, September 13th, inclusive; this course is arranged as a review prior to examinations 1958 and for general practitioners engaged in part time anesthesia; it consists of daily periods of clinical observation from 8 A. M. to 1 P. M. and lecture sessions from 2 P. M. to 9 P. M., between which there are suitable breaks; eighteen lectures will be given in all, by members of the Department of Anesthesia, McGill University; these cover the more important features of the physiology and anatomy of respiration, the cardiovascular system and other basic factors; pharmacological and anatomical considerations relevant to anesthesia will be reviewed; a lecture a day will be on one of the various clinical aspects of anesthesia; those wishing to attend who have not been on the McGill course should apply to Dr. R. G. B. Gilbert, Chairman, Department of Anesthesia, McGill University, address 3801 University Street, Montreal, P. Q.; the cost of this course for those not in the previously mentioned category is $25.00; a detailed programme can be sent to all those who are interested, on application to the above address.

MIDWESTERN UNIVERSITY OFFERS THE POSITION of coordinator of undergraduate psychiatric training; salary depending on qualifications. Send full information to: Box 6497, % AMA.

ADMINISTRATORS WANTED

ADMINISTRATOR FOR CHRONIC HOSPITAL; 137 beds; excellent opportunity for experienced and willing individual; all applications must be in writing and will be treated in confidence. Address: J. R. Bogante, Q.C., President, Jewish Hospital of Hope, 10 St. James Street, E., Montreal, Canada.

WANTED—FINANCIALLY RESPONSIBLE HOSPITAL administrator to lease 28 bed city owned hospital in southern Oregon; full laboratory facilities; three hundred MA; 125 KV x-ray machine; attending radiologist; eleven doctors on the staff. Box 6529, % AMA.

MEDICAL DIRECTOR

WANTED—AN ASSOCIATE MEDICAL DIRECTOR IN a large insurance company, with possibility of becoming medical director in a short period of time; desire a physician 45 or under; with previous training in an established life insurance company; state full qualifications. Box 6534, % AMA.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 N. Dearborn St., Chicago 10, Ill.

Phone WH 4-1500 Cable Address "Medic" Chicago

SUBSCRIPTION RATES

Price per annum in advance, including postage: Domestic, $15. Canadian, $17.00. Foreign, $21.50. Price to students, interns and residents: $9.00 in U. S. & possessions.

SINGLE COPIES of this and previous calendar year, 45 cents each.

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A price list describing the various publications of the Association will be sent on request.

AMERICAN MEDICAL ASSOCIATION
535 N. DEARBORN STREET, CHICAGO 10

SHAY MEDICAL AGENCY

55 E. Washington Street
Chicago 2, Illinois
Service of Distinction since 1914

ADMINISTRATION: (a) Dir, Med. Ed; NEng; $12,000 (b) Deputy Supt & Clin Dir; NEng hosp for mentally deficient; to $9854 & full mtn

ANESTHESIOLOGY: (a) Hd dept 160 bed hosp, to be increased to 300; bringing ther surg to city so def need for MD; PP; southern indus city (b) independent contractor for Calif hosp; 4 anes handle about 300 surg & 75 maternity cases a mo; est net income about $25,000 (c) eastern hosp, 4 anes operate as grp; 240 beds; min net income $15,000, can be higher 1st yr.

CARDIOLOGY: Grp, NW, versed in procedure of cardiac catheterization; sal open

DERMATOLOGY: (a) well est grp of 10; outskirts Chgo; %, prtnrshp, salary-whichever preferred (b) assn w/Cert Derm; Mich; $12,000; tchg apptmnt avail (c) new grp of 3; East; % of personal gross initially, future prtnrshp

ENT: 14 man grp; Ill; cons. more than $1000 a mo w/early prtnrshp (b) outstnding grp of 12; MW; $18,000 & incentive plan based on production (c) assn; NY; to $15,000 start, early prtnrshp; all you need here is car

GENERAL: (a) assn; Alaska; salary 1st yr, then % & prtnrshp (b) assn; Calif; $1000 start plus 10% of gross, exceeding $5000 a mo (c) assn, w/Int Med & ob, $1250 start, increased to $1500 a mo w/prog increases thereafter, Minn (d) for mobile blood operations, $7344, w/yrly increases & fringe benefits; 40-hour wk; MW (e) assn, w/ob & some surg, Tex, to $15,000 1st yr (f) clinic, diversified indus comm. W. Va; net $15,000 start

HOUSE PHYSICIAN: (a) grp pract w/hosp, central Fla; $500 (b) 345 bed hosp, genl duty, Ky, $400 & mtn (c) Mich hosp; $6000

INDUSTRIAL: w/some PP; Chgo suburb; $650 base guar & 20% of gross of what you earn over & about that amt

INSUHANCE: (a) asst med dir; NEng; under 35; $10,000 (b) asst med dir; MW; $10,000 trng in Int Med beneficial

INTERNISTS: (a) assn; Alaska; sal 1st yr (b) assn; w/trng in cardiol; Fla; $1000 & med expenses; future prtnrshp (c) Grp; MW; $1000 start & upward to $2000 when suff volume attained to justify increases (d) sm grp; Detroit; some GP; $15,000 start w/min $2000 increase each yr (e) w/interest in occupational hlth problems; RR; East; $12,500; 40-hr wk.

NEUROLOGY: (a) new grp of 3; East; % of personal gross w/future prtnrshp (b) Ohio; grp; qual to Hd Dept; interested in resrch

NEUROSURGERY: Priv MW grp of 11; sal 1st 3 yrs, then elig prtnrshp

OBSTETRICS-GYNECOLOGY: (a) 5-man grp; Ill; $12,000 start; potential over $30,000 (b) new grp; NJ; % of personal gross initially w/future prtnrshp

OPHTHALMOLOGY: asst Bo'd man; Tex clin; $12,000 upward

ORTHOPEDICS: (a) assn w/Bo'd man; Mich; to $12,000; prtnrshp after 1-yr (b) clinic; Ohio; qual Hd dept & interested in resrch (c) well-known grp of 37 yng men; East; excel. starting salary w/yrly increases thereafter

PATHOLOGY: (a) assn; East; sal or comm ranging between $20-25,000 (b) Dir of Lab & Coordinator of Intern Educational Prog; MW; guar $18,000

PEDIATRICS: (a) 3-man grp; NJ; % of personal gross initially w/future prtnrshp (b) comm med grp, W. Va; Bo'd Cert spec begin w/net annual income of $19,000

PSYCHIATRY: (a) for Co hosp Mental Hlth Cl; $14,400; Calif (b) MW clin; to set up & dvlp dept; $1000 min

RADIOLOGY: (a) hosp assn; deep So; $15,000 1st yr then increasng % (b) assn w/8 man grp, all doing Rad; MW; $14,000 1st yr—can make additional $5000 servicing outlying hosp

STUDENT HEALTH: asst med dir; MW tchrs coll; $10,000

SURGERY: (a) w/some GP, trauma & indus surg; share in well-est pract; sal to $1000 a mo for 6 mos, then prtnrshp; Ill (b) assoc w/2 surg; good sal 1st yr—then graduated prtnrshp; opptny for indus surg; MW (c) prepared to do GP for yr or 2; sm grp of Bo'd or Bo'd Elig spec; Mich; $15,000 start

TUBERCULOSIS: (a) staff state Tbc hosp; South; $7500 start; compl mtn (b) asst phys; state hosp; MW; to $9600 & mtn

UROLOGY: (a) assoc PP est for 20 yrs; MW; sal open; full prtnrshp w/in 1-yr (b) Hd Dept; clin; MW; good chances for advnsmnt

Upon request one of our applications will be mailed to you. Write us today—a post card will do.

ASSISTANTS WANTED

WANTED—ASSISTANT TO ESTABLISHED GENERAL practitioner; Missouri town of 2,000 population; 5 minutes to fully accredited open staff seventy bed hospital; $11,000 first year; $13,500 second year; then partnership; must be draft exempt; month paid vacation years. Box 6417 B, % AMA.

PHYSICIANS WANTED

OPPORTUNITIES FOR PRACTICE WITH ABLE group of physicians and surgeons in this 600 bed GM&S Veterans Administration Hospital+, Columbia, South Carolina; positions in orthopedics, radiology, otolaryngology, pathology and neurosurgery available; salaries up to $13,970 depending on qualifications, plus 15% Board Certification allowance; liberal vacation and sick leave and retirement plan; ideal year round climate; United States citizenship and license of any state required; excellent opportunity. Write: Director, Professional Services, Veterans Administration Hospital, Columbia, South Carolina. C

GENERAL PRACTITIONER WANTED — TO TAKE over practice of recently deceased physician grossing $40,000; select clientele, office completely new and modern in city of 20,000 with three hospitals; full privileges; drawing area of 40,000; southern Illinois; flexible terms. Box 6521 C, % AMA.

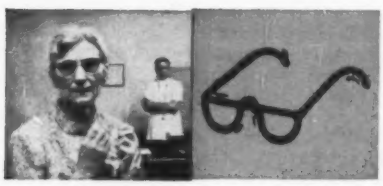
(Continued on page 52)

in each of these indications for a tranquilizer...

SR is a cardiac patient. His doctor put him on ATARAX because (+) it is an anti-arrhythmic and non-hypotensive tranquilizer.

PN suffers from anxiety and peptic ulcer. But now his doctor has him on ATARAX because (+) it lowers gastric secretion while it tranquilizes.

Asthmatic JL used to have frequent tantrums followed by acute bronchospasm. Her family doctor tranquilized her with ATARAX because (+) it is well tolerated, even by children.



Senile anxiety and persecution complex dogged Mrs. K. until her doctor prescribed ATARAX Syrup. (+) It tastes good, and it's a perfect vehicle for Mrs. K's tonic.

Dosage: Children, 1-2 *10 mg.* tablets or 1-2 tsp. Syrup t.i.d. Adults, one *25 mg.* tablet or 1 tbsp. Syrup q.i.d.

Supplied: 10, 25 and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

...ATARAX® gives you these benefits

(BRAND OF HYDROXYZINE)

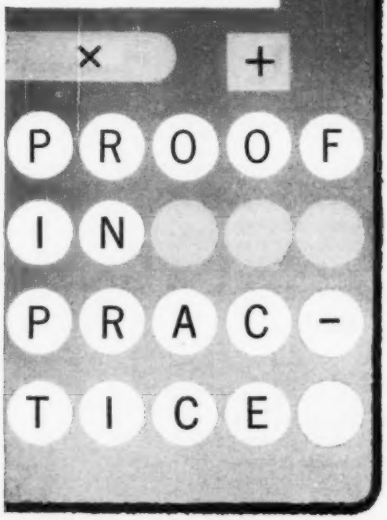
Roerig Rx

New York 17, New York
Division, Chas. Pfizer & Co., Inc.

(Continued from page 50)

SUMMARY OF REPORTS		
No. of Patients	Results	Percent
6,367	Excellent	30.9%
10,585	Good	51.4%
2,637	Fair	12.8%
1,003	Unsatisfactory	4.9%

(Total number of Side Effects: 622 3.0%)



This data deals with the results obtained by 1,944 physicians, treating 20,588 hypertensive patients with Unitensen. The "Proof In Practice" study validates, *in day-to-day private practice,* the findings of clinical trials in hospitals and institutions. It proves that Unitensen affords well tolerated, dependable office management for the majority of hypertensive patients. Unitensen lowers blood pressure . . . improves cerebral and renal blood flow . . . exerts no adverse effects on circulation . . . and, is virtually free of serious side effects.

UNITENSEN®

Each Unitensen tablet contains:
Cryptenamine (tannates) 2.0 mg.

UNITENSEN-R®

Each Unitensen-R tablet contains:
Cryptenamine (tannates) 1.0 mg., Reserpine, 0.1 mg.

Clinical supplies available on request.

Call your pharmacist for any additional information you may need. For economy, prescribe in 50's.

Neisler

Irwin, Neisler & Co. *Decatur, Illinois*

TONICS AND SEDATIVES

• • •

My Favorite Story

In this space will be published anecdotes submitted by physicians concerning their practice or people in general. Contributions for "My Favorite Story" are welcome.

•

This conversation took place between a prominent millionaire and his chauffeur. The millionaire was quite ill and felt he was about to die. He called in his chauffeur and said, "We've been through a lot together. Trips in the winter, trips in the summer, a tour of the States and one of Europe. But now I think I'm going on a journey worse than you ever drove me on."

"Well, sir," responded the faithful chauffeur, "it's comforting to know you'll be going down hill all the way."

•

There was much excitement in a rather small office building when the janitor won the Irish Sweepstakes for $70,000. People stopped by all during the day to congratulate him. One pompous executive in a jovial way said, "Well, now that you're wealthy do you plan to quit this mopping job and retire?"

"No, sir, I ain't going to retire," answered the janitor, "but God help any of you gentlemen who get in the way of my mop!"

A prominent actor stood in the lobby of a New York theatre attempting to purchase a ticket for that night's performance. The ticket seller said, "There are no seats available, so I wish you would stop arguing and go on your way. The only tickets I have are house tickets for important people who may show up."

A person behind the celebrity tapped him on the shoulder and asked, "Why don't you tell him who you are?"

The actor turned and walked away saying, "When I have to tell 'em who I am, then I ain't!"

•

A friend of ours swears that this is a true story. He was in a butcher shop when an Englishman dashed in and said, "Can you give me a yard of pork?"

"A yard of pork!" said the butcher. "What's a yard of pork?"

The scornful answer was, "Naturally, it's three pigs feet."

•

When a man starts worrying about a girl, it's a sure sign that he's thinking about one of two things—he's either wondering why he hasn't married her or why he has.

(Continued on page 54)

The Medical Bureau

900 North Michigan Avenue Chicago

ALLERGY: (Y30) Dir. dept, 42 man group; full partner after 2½ yrs; univ. city, MW.
ANESTHESIOLOGY: (B32) Ass'n, anes. group, fee-for-service; med. school city, So.
FOREIGN: (BB16) Chief of path., internist, 5 GPs; 300-bed gen. hosp., JCAH; excellently equipped depts; foreign operations, major indus. co.
GENERAL PRACTICE: (F25) Two young GPs; ass'n, 14 man group; town of 75,000, So. Calif. (F26) Ass'n, gen. surg. & ob-gyn who need assistance in their growing practices; center of rural area, No. N.J., 50 miles from NYC; excel. hosp. facilities; min. guarantee with %; partner after 1st yr. (F27) Ass'n, 4 Board men; new clinic bldg.; excel. hosp; town 25,000, Texas; early partner. (F28) Ass'n surg., FACS, well estab. Ige city, Calif; min. $12,000 plus %; full partner.
INSURANCE MEDICINE: (X33) Ass't med. dir; pref. internist or cardiologist; New Eng.
INTERNAL MEDICINE: (H19) Ass'n, well estab. group; pref. one qual. GI fluoroscopy, interpreting GI films; full partner after 3d yr; Fla. (H20) Ass'n, surg., FACS; coll. town, 125,000, 90 miles from Chgo; $12-$15,000; partner after 2d yr. (H21) Ass'n, well estab. group of 6 Board men; attractive, growing E. Texas city of 40,000; partnership. (H22) Ass'n, 12 man group; partner oppor; univ. city, Pac. NW.
NEUROSURGERY: (I4) Ass'n, Board NS; rapidly growing town, med. center for So. Ore. & No. Calif.
OALR: (E20) Otol., qual. ENT surg. to head dept. 16 man group; univ. center, 2 med. schls, So. (E21) Oph; head dept, 16 man group; res. town, So. Calif; partner oppor.
OBSTETRICS-GYNECOLOGY: (J5) Ass'n, group estab. '21; partner after 2d yr; Calif. (J6) Ass'n, 9 man group; town, 25,000, farming area; near Sun Valley, best hunting, fishing; better than average income.
ORTHOPEDICS: (K57) Head dept. 21 man group; new clinic bldg, suburb, med. school city, Ohio. (K58) Ass'n, Board orthopod; busy pract; $15,000 1st yr, 30% 2d on to 50-50; gross pract. $100,000; So.
PATHOLOGY: (L71) Head dept, group recently founded; eventually 50 men whose offices, practices will be confined to new 180 bed hosp; attrac. contract; Hawaii; $18-$20,000. (L72) Ass'n, 2 Board pathologists; busy hosp. & priv. pract; min. $17,000 increasing to $25,000; Calif.
PEDIATRICS: (M84) Ass'n, Board internist estab. new group; rapidly growing ideal res. area, N. J., within 45 min. NYC; excel. hosp. facilities; full partner. (M85) Ass'n, 30 man group; would be 4th man; sal., 2 yrs; full partner after 3d; coll. town, Rocky Mts. **P & N:** (P11) Psy. to estab., dir. new psy. clinic supported by foundation; city 100,000; excel. oppor. priv. pract; Texas. (P12) Ass't by Board NP; busy pract; attrac. New Eng. town on Long Island Sound; $25,000.
RADIOLOGY: (R37) Group of 3 x-ray men requires 2 more, one primarily int. in therapy & radium; hosp. (400 beds) & priv. pract; Fla.
SURGERY: (U9) Chief; new 200 bed gen. hosp. serving indus. group; $18-$20,000; So. (U10) Plastic surg; Ige group, Board or elig; Calif.
UROLOGY: (W40) Pref. with academic interests; ass'n teh'g hosp., 1000 beds; med. school city, MW.

Please send for our Analysis Form.

Burneice Larson DIRECTOR

EMERGENCY ROOM PHYSICIANS—THREE VACANcies are available for appointment as Receiving Ward Physicians beginning September 1, 1958; excellent refresher for physicians waiting to start residencies, military service or general practice; may arrange for study or work in various clinics or laboratories in off-duty time; applications for any period of six months or longer will be considered. Write: Dr. Kenneth L. Clark, University of Cincinnati College of Medicine, Cincinnati General Hospital*+, Cincinnati 29, Ohio. C

WANTED—TWO DOCTORS; ARNOLD, NEBRASKA; population 1,000; trade area 3,000; 35 and 40 miles to a larger town; modern clinic, new; 12 bed hospital approved by AHA; drug store; five churches; Chamber of Commerce with 50 active members; references to financial possibilities. Dr. Leslie Potts, Warroad, Minnesota; Dr. Max Raines, North Platte, Nebraska; Dr. Mike Chaloupka, Callaway, Nebraska, Arnold Community Hospital. C

PHYSICIAN-SURGEON; UNUSUAL OPPORTUNITY; established medical offices and equipment available due to death of physician with large and substantial practice; choice location in prosperous city of 8,000; county seat; forty miles from Omaha, Nebraska; modern 75 bed hospital; million dollar addition under construction; complete medical, surgical, x-ray equipment and offices available now from widow-owner. Box 6225 C, % AMA.

RADIOLOGY — JERSEY CITY MEDICAL CENTER; position available immediately; approved for three year residency; extensive service in diagnostic roentgenology; also in radiation therapy and radium; isotope laboratory; affiliated with Margaret Hague Maternity Hospital and Pollak Chest Hospital where training in these fields is also available; beginning salary $2,000 plus maintenance. Box 6594 C, % AMA.

ASSOCIATE RADIOLOGIST — 325 BED, TEACHING hospital*+ associated with medical center has immediate opening for a certified radiologist who is teaching and research, as well as clinically oriented; stimulating atmosphere; fully approved 3 years residency program; liberal salary based on background, competence and potential. Address reply which will be held in strictest confidence to: Chief Radiologist, Box 6591 C, % AMA.

(Continued on page 54)

Low Dosage KYNEX* for G.U. Infections

Sulfamethoxypyridazine Lederle

Unusual Antibacterial and Anti-infective Properties—More soluble in acid urine[1] . . . higher and better sustained plasma levels than any other known and useful antibacterial sulfonamide.[2]

Unprecedented Low Dosage—Less sulfa for the kidney to cope with . . . yet fully effective. A single daily dose of 0.5 to 1.0 Gm. maintains higher plasma levels than 4 to 6 Gm. daily of other sulfonamides—a notable asset in prolonged therapy.[2]

Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours.

KYNEX—WHEREVER SULFA THERAPY IS INDICATED

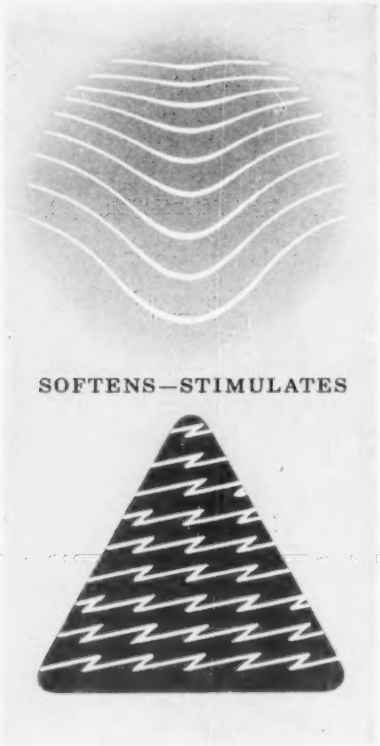
Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

references:
1. Grieble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958.
2. Editorial: *New England J. Med.* 258:48-49, 1958.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

*Reg. U.S. Pat. Off.



Metamucil® does

BOTH!

Effective relief of constipation requires *more* than soft stools. Metamucil, besides producing soft, easy stools, induces gentle peristaltic stimulation. By retaining water within the stool, Metamucil SOFTENS fecal matter, prevents the formation of hard stools, and, by adding a soft, inert bulk to the bowel contents, STIMULATES normal peristalsis.

Metamucil is a brand of psyllium hydrophilic mucilloid with dextrose.

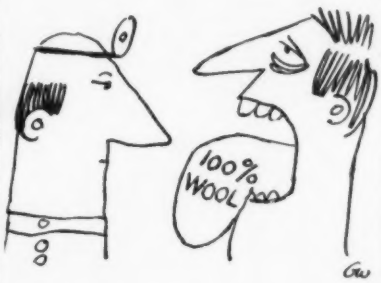
SEARLE

The Poetry Corner

A young boy named Aloysius
Cried out while doing the dishes,
"This diving for pearls
Is strictly for girls—
I should be out fishin' for fishes!"

•

Sir Lancelot in days of old
Wore armor made of steel,
And everywhere this knight did go
Right noble did he feel.
He was invited into court
To dine with Lady Hausers,
He spilled some gravy on his suit,
And rusted his best trousers.



Of Cars And Men And Women

Since the day that Henry Ford started it all, driving has been a constant source of argument between the male and the female. Each blames the other for poor driving. The humor developing from this situation may not always be funny, but it is guaranteed to be bitter:

A friend of ours who is a television-prop man completely solved the ever-present parking problem. He made an exact replica of a fire hydrant.

Just before driving home each night, he took the fire hydrant out of his car trunk and placed it on the curb outside the building. Next morning, he would find his special reserved space, park his car, put the fire plug back in his car trunk for the day and when he was ready to leave for the evening he would repeat the trick.

He kept this up for four months before he was discovered. The fine was $5—an obvious example where crime paid.

•

A gentleman strolling nonchalantly down a residential street barely escaped being hit by a car that careened up on the sidewalk and then off again. Naturally the driver was a woman.

An indignant passer-by rushing to the scene heard the gentleman apologetically saying, "It was all my fault for walking in the middle of the sidewalk."

•

While on the subject of women drivers, another gentleman was walking along minding his own business and was almost run over by another woman driver when he came to a corner.

"Hey, mister," she yelled, "is this the second turn to the left?"

(Continued on page 58)

(Continued from page 52)

OUR 62ND YEAR

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Founders of the counseling service to the medical profession, serving medicine with distinction over half a century

ADMINISTRATION: (q) Direct 700 bd. genl, fully-apprvd hsp; oppor $20,000; city 100,000. MW.
ANESTHESIOLOGY: (o) Hd dept. 175 bd. JCAH hsp; excl oppor priv pract; no anes in city, 60,000; SW.
DERMATOLOGY: (x) Organ & hd dept; one will'g assist int med until estab'd; 17 cert or elig men; MW.
FOREIGN: (q) Indus phys & surg; major Amer co; 10,000 emplys; excel 500 bd hsp, well-staff'd; sal, bonus, partly tax free shld equal $20-25,000 plus furn home, servants & mtce
GENERAL PRACTICE: (x) Assoc w/2 AAGP's; full-clinical facils; $16,800; full prtnr 3-5 yrs; Calif. (y) Join 2 GP's; pref one qual'd surg; shld net about $20,000; Mich. (z) Assoc GP grp; fee basis, guar $14,400—shld easily aver more; own sml hsp; SE.
INDUSTRIAL MEDICINE: (p) Surg or Ortho; as Chief, Indus Med dept; major co, heavy indus; E.
INTERNAL MEDICINE: (u) Med Dir; lge bus institution, 9,000 ofc emplys; pref w/cardiology trng; well-equip'd & estab'd dept; $15-20,000; E. (v) Assn w/13 Bd men; about $12,000; % increases shld net $25-30,000, few yrs; MW. (w) Assn w/Bd internist; grp 10 specialists, serv'g sevl states; $15-20,000; prtnrshp 1 yr; NW.
OALR: (e) Oph; hd dept; new post; 14 man grp w/sevl branches; about $18,000; MW. (f) Oto; immediate need; assoc w/2 Oto's; 2 fully-equip'd ofcs; oppor clinic-hosp pract; salary plus %; lge city, sevl hrs to San Francisco, Calif.
OB-GYN: (k) Hd dept; small grp, well-est'd; about $14,000; exc hsp facil; Central. (l) Dir & build dept Ob-gyn; 9 man grp expndg; have non-profit rsrch & tchg fndtn; sal & fringe benefits; MidSo.
ORTHOPEDICS: (f) Hd dept; new post; grp 24 men; closed staff 200 bd JCAH hsp; serves huge area; W. (g) With academic inter; assn priv pract grp all on med schl faculty; univ clinic; rsrch; So.
PATHOLOGIST: (e) Hd dept, 300 bd. JCAH hsp; $25,000; lge univ city, MW. (f) Dipl. clin path; 325 bd, fully-apprvd hsp; excl sal; twn 60,000, ME.
PEDIATRICS: (c) Assn w/Ped; $15,000 start; fine oppor excl prtnrshp; E. (f) Assn w/Bd ped, academy member; 14 man grp; $18,000; Ill.
PHYSICAL MEDICINE: (b) Dir dept, impor ortho hsp, serv'g wide area; to $18,000; also possibility consultation, 2 other lge facilities.
P & N: (x) Psy; dir hlth clinic; $15-19,000 plus priv pract; coll twn, MW. (y) Neuro; assn w/yng Mayo trnd Bd neurosurg (MS, PhD); no neuro in state; busy pract; twn 40,000; W. Mtns.
RADIOLOGY: (y) Hd dept, 250 bd, fully-apprvd hsp, expand'g; $20-25,000; New Eng. (z) Assn; 7 out-stand'g Bd rad; sevl on med faculty; serv 6 hsps; oppor about $20,000; MW.
SURGERY: (n) 3d qual surg w/min 2 yrs exp in pract; grp assn; oppor $20,000 1st yr; So Calif. (o) One w thoracic trng; assoc w/Bd surg, FACS, MS. surg; coll twn 30,000, East.
UROLOGY: (a) Qualify Head dept, 10 man grp; about $15,000; manufacturing city, Southwest.

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WANTED — PHYSICIANS PSYCHIATRICALLY trained; 1,105 bed Veterans Administration neuropsychiatric hospital dynamically oriented; salary range $9,890 to $16,000 depending upon qualifications; area has excellent educational and cultural opportunities; near Smith College, Amherst College, and the University of Massachusetts. Communicate: Manager, Veterans Administration Hospital, Northampton, Massachusetts. C

WANTED—INDUSTRIAL PHYSICIAN TO JOIN DYnamically motivated, modern industrial and/or occupational medical department located in the mountain resort area of North Carolina; opportunity to work with diplomate in occupational medicine; salary open but consistent with trend of the times; working conditions challenging and demanding but relaxed and pleasant. Box 6598 C, % AMA.

WANTED—BOARD CERTIFIED ANESTHESIOLOGIST for full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $20,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

PHYSICIANS — GENERAL PRACTICE; INCLUDING opportunities for those finishing one year internship; internists; pathologists. For major oil company with extensive operations in the Middle East; must be graduates of an approved medical school; specialists must be Board Eligible or Certified. Write outlining personal history to: Box 6565 C, % AMA.

WANTED—BOARD CERTIFIED RADIOLOGIST—FOR full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $18-20,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

ANESTHESIOLOGIST — ELIGIBLE FOR AMERICAN Board to work with group of five men in southern community of 100,000; starting at $18,000; rapid advancement to full partnership; give pertinent data. Box 6478 C, % AMA.

(Continued on page 58)

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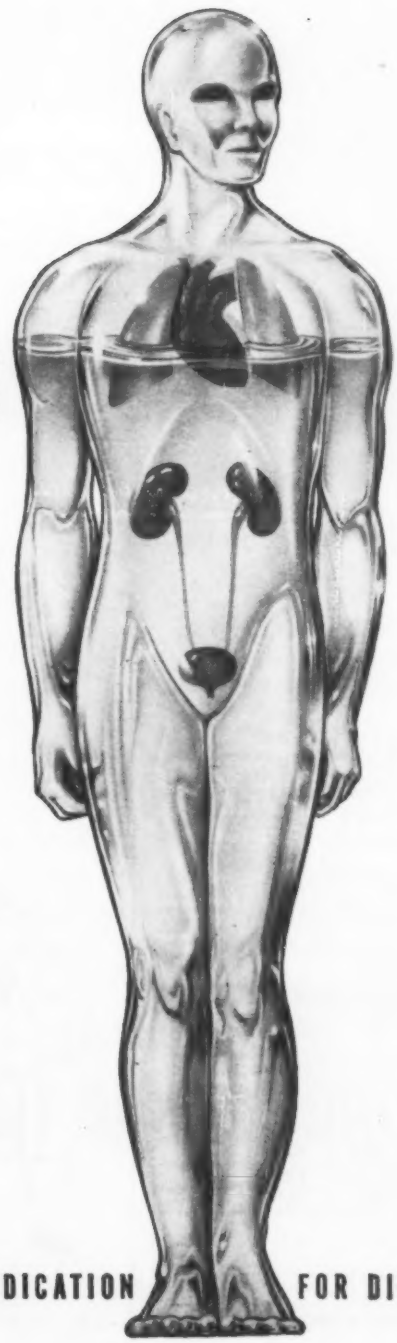

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TONICS AND SEDATIVES *(Continued)*

An ancient car wheezed and rattled its way through the main business street of a small town. The policeman on duty yelled, "Hey, you, pull over to the curb. I'm giving you a ticket. Don't you see that sign 'Speed —15 mph?' "

The driver crawled out, got behind the car, put his shoulder to the back and began shoving. "Can't make that with the motor," he said. "But maybe I can make it by brute strength."

•

Quotes of the Week

Divorces are inevitably sad, but who can foresee what renewed happiness they may lead to.

•

There is nothing more demoralizing than a small but adequate income.

•

Bees are not as busy as they think. They just can't buzz any slower.

•

The size of a man can be measured by the size of the things that make him angry.

•

He's the kind of a bore who's here today and here tomorrow.

•

Anecdotes

At a recent afterdinner speech, the well-known public speaker started off, "Get your cows lined up, boys, here comes the bull. But seriously, an afterdinner speaker has a lot in common with a bull. It isn't the amount of time he spends, it's the importance of what he accomplishes."

•

A customer in a restaurant in New York complained bitterly that the place was literally filled with flies. "Waiter," he yelled, "I don't like all these flies in here."

"Yes, sir," beamed the waiter helpfully, "just point out the ones you don't like and I'll evict them."

—D. D.

(Continued from page 54)

WANTED—BOARD CERTIFIED OBSTETRICIAN-GYNECOLOGIST for full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $18-20,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

WANTED—ONE INTERNIST AND ONE GENERAL practitioner for 430 bed general medical and surgical hospital; supervised by Board Certified physician; bachelor quarters available on station. Write: Director, Professional Services, Veterans Administration Hospital, Fayetteville, North Carolina. C

WANTED—BOARD CERTIFIED PEDIATRICIAN FOR full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $18-20,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

INTERNIST WANTED—TO TAKE OVER PRESENT internists office and equipment; developing practice in heart of Florida's eastern Gold Coast; moderate investment with satisfactory terms; diagnostic x-ray, fluoroscope, available of desired; Florida license required. Box 6601 C, % AMA.

WANTED — BOARD CERTIFIED ORTHOPEDIC surgeon; for full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $20-22,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

WANTED — INTERNIST; RESIDENCY COMPLETED for well established Virginia group; associated excellent hospital; partnership after one year; no stock to buy; no home calls; vacation, study and sick benefits. Apply: Box 6603 C, % AMA with full information in first letter. C

GENERAL PRACTITIONERS — SMALL GROUP IN new combined clinic-hospital building in southwestern New Mexico desire one or two general practitioners with interests in obstetrics or pediatrics; beginning salary open; future earnings limited only by ability. Box 6604 C, % AMA.

WANTED—SPECIALISTS, PEDIATRICIANS, CARDIologist, orthopedist, urologist; for clinic midwestern city; prefer certified men able to head departments hospital; also openings other specialists interested group practice. Box 6596 C, % AMA.

(Continued on page 61)

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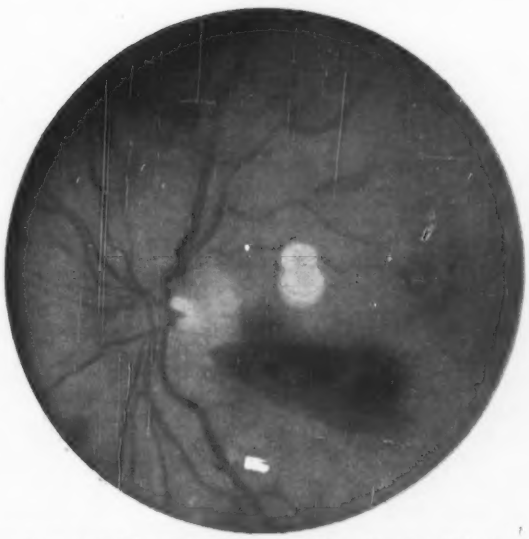

AS IN THIS CASE[1]: Fundus of 62-year-old female who has had severe hypertension for many years. Photo shows effect of pressure at a-v crossings and various types of hemorrhage.

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1. Bedell, A. J.: Clin. Symposia 9:135 (Sept.-Oct.) 1957. 2. Lee, R. E., Seligman, A. M., Goebel, D., Fulton, L. A., and Clark, M. A.: Ann. Int. Med. 44:456 (March) 1956.

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(Continued from page 58)

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WANTED—BOARD CERTIFIED PSYCHIATRIST FOR full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $20,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

OBSTETRICIAN-GYNECOLOGIST WANTED — EXcellent opportunity; progressive 3 man group; community 30,000; well established, complete clinic and hospital facilities; Board qualified; equity interest without investment after probation. Write: P. O. Box 1010, Shawnee, Oklahoma. C

WANTED—BOARD CERTIFIED PATHOLOGIST; FOR full time hospital practice in professional care program of the Miners Memorial Hospitals; starting compensation $20,000; progressive pay scale. For details address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

WANTED—CAPABLE GENERAL PRACTIONER TO take over long established; busy practice; office furniture and equipment, desirable location on Chicago's southwest side; unusual opportunity; leaving to specialize; will introduce. Box 6595 C, % AMA.

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WOMAN PHYSICIAN—1947 GRADUATE; COLLEGE clinic experience; Board qualified in radiology; desires general practice preferably with group in midwest or south; willing to do some radiology. Box 6405 C, % AMA.

FLORIDA—NEAR CLEARWATER; 8 YEAR ESTABlished general practice location; modern clinic fully equipped; should gross $40,000 first year; for sale, rent or percentage. W. Leone, MD, Ingraham Building, Miami, Florida. C

FULL TIME PATHOLOGIST—300 BED HOSPITAL; $20,000 to $25,000 a year depending upon qualifications, experience, etc; must be Board qualified and capable of taking charge of laboratories. Edgewater Hospital, 5700 N. Ashland Avenue, Chicago, Illinois. C

WANTED—GENERAL PRACTITIONER; CALIFORNIA licensed; association with busy general practitioner in lovely suburb of Los Angeles; excellent hospital facilities; $12,000 first year; percentage and/or partnership thereafter. Box 6612 C, % AMA.

TWO PARTNERS DESIRE ASSOCIATE IN PRIVATE practice of radiology; northern Ohio metropolitan; salary open; progressive entry into partnership after first year; flourishing practice with excellent future. Contact: Box 6620 C, % AMA.

WANTED—YOUNG PHYSICIAN; INDUSTRIAL PHARmaceutical and chemical companies and hospitals; psychiatrists, anesthesiologists. Medical Personnel Agency, 7 East 42nd St., New York, New York. C

ACTIVE GENERAL PRACTICE DESIRING A THIRD associate; salary open. Please contact Pa 1-1612, or write to: Drs. Cable & Rosenbaum, 2247 East 38th Street, Minneapolis, Minnesota. C

HOUSE PHYSICIAN—80 BED GENERAL HOSPITAL; 60 miles north of New York City; immediate opening; $350 per month plus maintenance. Apply: Administrator, The Cornwall Hospital, Cornwall, New York. C

ANESTHESIOLOGIST — DIPLOMATE OR ELIGIBLE for Board or College to join three man group; must have Florida license or be eligible for Florida State Board; details on request. Box 6593 C, % AMA.

WANTED—COUNTY PHYSICIAN; 2,000 POPULATION and 6 bed medical clinic in central Oregon town; building to be constructed for doctor. Write: Wheeler County Memorial Clinic Building, Fossil, Oregon. C

PEDIATRICIAN—NEW YORK LICENSE, JAMAICA, Long Island to assist doctor with busy practice, and work full time in private hospital; age no barrier. Box 6599 C, % AMA.

WANTED—GENERAL PRACTITIONER FOR ASSOCIate in well equipped clinic; excellent hospitals in Springfield; $12,000 first year; full partnership in four years. Box 6608 C, % AMA.

RADIOLOGIST WANTED — BOARD CERTIFIED OR Board eligible to join radiology group in midwestern city of 100,000; office and hospital practice; opportunity for early partnership. Box 6616 C, % AMA.

GENERAL PRACTITIONER WITH AN INTEREST IN ENT to take over well established lucrative practice; $5,000 assured annual income for part time work; New York state. Address: Box 6622 C, % AMA.

OPHTHALMOLOGIST—QUALIFIED; TO TAKE OVER complete practice for price of equipment; Ohio city; retiring next July; send details of training, etc. to: Box 6597 C, % AMA.

PATHOLOGIST — NEW YORK LICENSE, JAMAICA, Long Island, teaching position full time in private hospital; age no barrier. Box 6600 C, % AMA.

FLURO-ETHYL is a solution of Ethyl-Chloride and Dichlorotetrafluoroethane which has been demonstrated to be useful as a topical refrigerant for use in plastic surgical skin planing and as an agent to produce local anesthesia for minor surgical procedures. It contains 75% dichlorotetrafluoroethane and 25% Ethyl-Chloride, and when applied topically to the skin, produces rapid refrigeration and anesthesia to the desired depths of the skin.

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Although this preparation is specially designed for plastic surgical skin planing, it can also be used as a local anesthetic for minor procedures such as incision of furnuncles, electrocautery to small cutaneous tags, flat warts, and nevi, or the alleviation of needle pain during hypodermic injection.

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When using GEBAUER'S FLURO-ETHYL, holding same in an inverted position, the solution is then delivered onto the skin in the form of a fine, mist-like spray, producing a degree of anesthesia by refrigeration adequate for skin planing without the use of an air blower. To obtain best results place container in cooler before using.

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ANESTHESIOLOGIST—JOIN GROUP MD ANESTHEsists in New York City; Board eligibility not required; $15,000 first year; require New York state license. Box 6615 C, % AMA.

WANTED — OROLARYNGOLOGIST; YOUNG BOARD man preferred. Apply to: Carl Olander, MD, Taylor-Richardson Clinic, Ellensburg, Washington. C

PHYSICIAN—TO SERVE WITH DEPARTMENT OF health clinical team working with children having a variety of crippling conditions; will have professional and administrative responsibility for operation of specified fields of crippled children services; requires completion of 2 year internship in approved hospital and not less than 2 year's employment in pediatrics or completion of 3 year internship in pediatrics and M. P. H.; also eligibility for license to practice medicine and surgery in Connecticut; merit system, sick leave, annual vacation. Reply to: State Personnel Department, State Office Building, Hartford, Connecticut. C

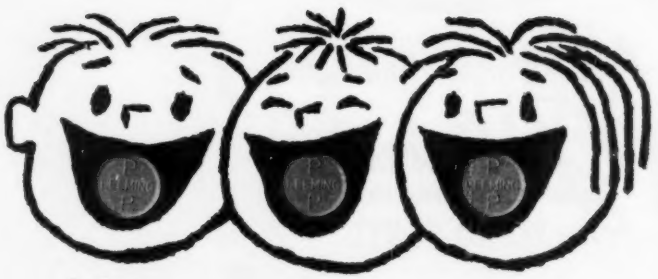
WANTED — ANESTHESIOLOGIST WITH BACKground in research, Board Eligible or completed Boards for full time position as assistant or associate professor in department of anesthesiology; level of appointment and salary depend on training and experience. Write: Perry P. Volpitto, MD, Department of Anesthesiology, Medical College of Georgia, Augusta, Georgia. C

WANTED — GENERAL PHYSICIANS: UNDER 35 years of age; full time hospital practice, opportunity to develop interest; consultation with specialists available in professional care program of 10 Miners Memorial Hospitals; full time positions with starting compensation at the rate of $12,000 per year; progressive pay scale; for appointment currently and for July 1959; U. S. citizenship and eligibility for licensure in Kentucky, Virginia, or West Virginia required. For details, address: The Clinical Director, Miners Memorial Hospital Association, 1427 Eye Street, N. W., Washington 5, D. C. C

WANTED — ASSOCIATE IN ANESTHESIOLOGY; Board or Board qualified; excellent opportunity in 300 bed closed staff hospital++ for clinical anesthesia and some research if desired; present department consists of MD and five nurses; work volume over 5,000 cases per year exclusive of O. B. analgesia, with constantly increasing volume, necessitating expansion of department. For particulars, write: J. Morgan Schwab, MD, Chief of Department of Anesthesiology, Geisinger Memorial Hospital, and Foss Clinic, Danville, Pennsylvania. C

RADIOLOGIST — CERTIFIED IN DIAGNOSIS AND therapy; to join on full time basis the department of a 350 bed active medical surgical hospital; two full time radiologists and three residents in the department; affiliated with a medical school and moving to expanded modern facilities next year; located in a large city on the eastern seaboard; kindly state qualifications and give references in first letter. Box 6560 C, % AMA.

(Continued on next page)



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The new Piperazate Wafers, utilizing insoluble piperazine *phosphate*, provide short, pleasant piperazine treatment for intestinal helminths. For pinworm, *only one dose a day* for just *one week* is required; for roundworm, *a single dose.*

Kids love the cool, tasty mint flavor of Piperazate Wafers. There is no possibility of spillage or variation in the size of the dose. And the use of Piperazate avoids the high incidence—35-50%—of nausea, vomiting and diarrhea which may be associated with gentian violet therapy.[1]

Piperazate assures a 90% cure rate in one week's treatment of pinworm[2] and an 85% cure rate in one day's treatment of roundworm.[3]

One Week Dosage for Pinworm	One Day Dosage for Roundworm
Children 15-30 lbs. . . . 1 Wafer	Children 20-30 lbs. . . . 3 Wafers
Children 31-60 lbs. . . . 2 Wafers	Children 31-40 lbs. . . . 4 Wafers
Children 61 lbs. and over . . . . . 4 Wafers	Children over 40 lbs. and adults . . . . . 7 Wafers
To be sucked or chewed before breakfast for 7 consecutive days.	To be taken at one time on one day only.

Piperazate* Wafers

piperazine phosphate, Leeming, 500 mg.

Supplied: In packages of 28 Wafers

1. Goodman, L., and Gilman, A.: Pharmacological Basis of Therapeutics, New York, Macmillan, 1955, p. 1153. 2. Brown, H. W., *et al.*: J.A.M.A. *161*:515 (June) 1956. 3. Hoekenga, M. T.: World M. J. *3*:299 (Sept.) 1956.

*TRADEMARK

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(Continued from preceding page)

WANTED—HEALTH OFFICERS FOR LOCAL UNITS in Florida; Health Officer IV, $11,040 to $13,800, Health Officer III, $10,080 to $12,600, Health Officer II, $9,120 to $11,520, Health Officer I, $7,200 to $9,120; each applicant is rated on a basis of experience and training; good state retirement plus social security; Merit System protection; travel allowance 10c a mile; 40 hour week; work in vacation surroundings. Apply to: Wilson T. Sowder, MD, State Health Officer, P. O. Box 210, Jacksonville 1, Florida. C

PATHOLOGIST NEEDED—DIRECTOR OF DEPARTMENT; JCAH approved; 164 bed non-profit hospital; expanding; air conditioned laboratory; good equipment; outstanding staff; city 42,000; 25 miles from Columbus and Ohio State University; 4 miles from Denison University; excellent opportunity; contract and compensation open; Contact immediately collect: R. H. Athey, Executive Director, Newark Hospital Association, Newark, Ohio. C

MASSACHUSETTS, NEAR BOSTON—WANTED; SENIOR psychiatrists on both research and house service; 1,600 beds; approved two years residency training; minimum salary $9,061; additional increases for Boards and experience; reasonable rents; time off for analysis; medical school affiliation; excellent opportunities for teaching and research. Theodore F. Lindberg, MD, Superintendent, Medfield State Hospital, Medfield, Massachusetts. C

APPROVED FELLOWSHIP IN CARDIOLOGY—AVAILable September 1, 1958, 684 bed county hospital near New York City; all beds used for teaching; applicants must have minimum of three years graduate training; active teaching cardiology service, cardiac consultation, cardio-pulmonary laboratory, individual research activity; cardiovascular surgical service functioning; stipend $4,200 annually. Apply: Superintendent, Bergen Pines County Hospital, Paramus, New Jersey. C

SURGEON—WISCONSIN LICENSE OR ELIGIBLE FOR license now; capable of performing general procedures and fracture work; should be able and resourceful; not necessarily Board qualified; work in a small community hospital; excellent rural area; unopposed practice; need is so great that immediate partnership is offered if so desired; an unusual opportunity for a surgeon. Write to: MacCornack Clinic, Whitehall, Wisconsin. C

WANTED—GENERAL PHYSICIAN FOR FULL TIME hospital practice; California license required; modern well equipped 90 bed hospital with addition of 50 beds in the near future; fast growing northern California community; center of recreational and sports area; salary open. Please write, stating age and qualifications to: Medical Director, P. O. Box 630, Redding, California. C

INTERNIST — BOARD CERTIFIED OR ELIGIBLE; well established group 18 specialists located in excellent hospital; junior partnership after 2 years; good salary. Apply: Dr. Charles E. Holzer, Holzer Clinic, Gallipolis, Ohio. C

APPROVED FELLOWSHIP CARDIOVASCULAR DISease—Complete cardiovascular center; catheterization; cinefluoroscopic angiograms; pulmonary function; isotopes; cardiac surgery; research, etc; graduate of approved school with the equivalent of two years of approved training in internal medicine. Apply: Robert S. Green, MD, Memorial Heart Laboratory, St. Mary's Hospital, Cincinnati 14, Ohio. C

GENERAL SURGEON—FOR 390 BED GENERAL HOSpital; must be a citizen and licensed in any state; salary range from $9,890 to $16,000; according to applicant's past experience and educational background; fringe benefits; preceptorship in surgery available. Apply to: Manager, Veterans Administration Hospital, Muskogee, Oklahoma. C

PSYCHIATRISTS WANTED — SALARY $6,505 TO $13,970 depending upon qualifications; 15% additional if Board Certified; not to exceed $16,000; approved three year psychiatric residency in conjunction with Northwestern University; hourly commuting distance Chicago; citizenship required. Write: Manager, Veterans Administration Hospital, Downey, North Chicago, Illinois. C

WANTED—GENERAL PHYSICIAN IN RURAL PRACtice Northern California; with interest in preventive medicine; offer $1,000 to $1,200 per month; according to training and experience, including surgical, and also in relation to desire to work at general practice with country people; partnership type association after trial period. Box 6568 C, % AMA.

PSYCHIATRIST—BOARD OR ELIGIBLE FOR CHIEF, NP service in 450 bed GM&S hospital with small acute intensive therapy NP service; salary to $16,000 depending on qualifications; citizenship required; liberal vacation and retirement benefits; desirable community. Contact: Manager, Veterans Administration Center, Shreveport, Louisiana. C

PHYSICIANS WANTED—TO WORK WITH PSYCHIatric patients in 2,400 bed hospital; suburb Chicago; salary ranges $6,505 to $13,970 depending upon qualifications plus 15% if diplomate; not to exceed $16,000; Northwestern University affiliate; citizenship required. Write: Manager, Veterans Administration Hospital, Downey, North Chicago, Illinois. C

POSITION OPEN—ASSISTANT ELECTROENCEPHALographer; MD for large midwestern university hospital; advanced training available; research facilities; neurological training desirable; salary open; please state draft status. Box 6567 C, % AMA.

GENERAL PHYSICIAN WANTED BY YOUNG RURAL medical group; excellent clinic facilities; sponsored postgraduate and vacation periods; privileges in new hospital (7 miles distant; $14,000-$16,000 starting range depending on qualifications. R. N. DeVore, MD, Clear Fork Medical Group, Oceana, West Virginia. C

HOUSE PHYSICIAN—LICENSED IN PENNSYLVAnia; position available immediately; 250 bed general hospital; fully accredited; located 20 miles north of Pittsburgh; if interested, contact: Thomas J. Paden, Administrator, Citizens General Hospital, New Kensington, Pennsylvania. C

ORTHOPEDIST AND UROLOGIST—BOARD CERTIfied or qualified to join established 17 man group in new building in three college city of 70,000; three modern hospitals with open staffs; 200,000 surrounding population adjacent to Minnesota Lake resorts. Box 6536 C, % AMA.

PHYSICIANS WANTED—FOR CHICAGO AND SURrounding suburbs; many full and part time opportunities available including association, industry and all specialties. Call or write: Garland Medical Placement, 25 East Washington Street, Chicago, Illinois, Andover 3-0145. C

TWO PHYSICIANS—ONE WITH TRAINING IN Anesthesia and one with training in EENT; $1,000 per month to start; immediate opening; Washington license required. Contact: R. A. Bussabarger, MD, Phone 90, New Riverview Hospital & Clinic, Raymond, Washington. C

WANTED — PHYSICIAN-PRACTITIONER CAPABLE administering general anesthesia; small seaport town; lower eastern shore; 34 bed general hospital with improved facilities being constructed. Contact: A. J. Bryan, Jr., Administrator, Edward W. McCready Memorial Hospital, Crisfield, Maryland. C

GENERAL PRACTITIONERS, INTERNISTS — TO work with psychiatric patients in 631 bed neuropsychiatric hospital; salary open, depending upon qualifications; citizenship required; quarters available. Manager, Veterans Administration Hospital, Fort Lyon, Colorado. C

WANTED—PATHOLOGIST FOR 455 BED GM&S HOSpital to balance staff; salary dependent on qualifications; duties to include management of intra-hospital education program. Contact: Manager, Veterans Administration Hospital, Dublin, Georgia. C

OTOLARYNGOLOGIST WANTED—FOR ASSOCIATION in large long established EENT practice in a city with excellent hospital facilities; starting salary $21,000 with opportunity for great salary advancement and early partnership. Write: Box 6535 C, % AMA.

WANTED—GENERAL PRACTITIONER; CAPABLE OF part time anesthesia during the year; to join group 5 general practitioners; 1 surgeon; salary 1st year then partnership; send complete details first letter. L. E. Shortes, MD, 53 Mill Street, Placerville, California. C

WANTED — PSYCHIATRIST TO ORGANIZE OUR small service; 35 beds and do consultations for 455 bed GM&S hospital; salary depending on qualifications. Contact: Manager, Veterans Administration Hospital, Dublin, Georgia. C

WANTED — QUALIFIED MD ANESTHESIOLOGISTS to join ethical group of anesthesiologists, in a large, new hospital; D. C. area; fee for service basis; beginning annual income at least $12,000; full particulars when applying. Box 6449 C, % AMA.

WANTED—INTERNIST OR GENERAL PRACTITIONer to associate with 8 doctors as tenant in their building; surgical assists; referrals, good income assured. Write to: Dr. Greenberger, Medical Arts Building, McAlester, Oklahoma. C

(Continued on page 64)

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(Continued from page 62)

WANTED—GENERALIST OR SURGEON TO ASSOciate with two Board Certified surgeons in Toledo, Ohio; to have charge of industrial work and assist in surgery and in hospital; state age and salary requirements and background. Box 6531 C, % AMA.

PEDIATRICIAN — BOARD OR ELIGIBLE; GROUP located in Illinois suburban residential area; excellent opportunity; salary with definite future for partnership; state qualifications and training in reply. Box 6555 C, % AMA.

ORTHOPEDIST—TAKE OVER ESTABLISHED PRIvate practice; growing southern California beach community; pleasant area; near hospital; office equipment, secretary, no lease to buy; must leave area; terms. Box 6552 C, % AMA.

PSYCHIATRIST — 1,700 BED PROGRESSIVE HOSpital; salary $9,890 to $12,770 according to training and experience; additional 15% allowance if Board Certified. Write: Manager, Veterans Administration Hospital, Danville, Illinois. C

PHYSICIAN WANTED—OPPORTUNITY FOR GENeral practitioner; a prosperous Finger Lakes community, New York State; a community project; home-office combination; reasonable terms. Write: Wilson Robin, King Ferry, New York. C

GENERAL PRACTITIONER — SOUTHERN CALIFORnia; $12,000 annually plus percentage when qualified and leading to partnership; excellent opportunity for future security; license required; state availability, experience, etc. Box 6543 C, % AMA.

WANTED — MEDICAL DIRECTOR FOR FRONTIER Nursing Service with at least two years residency in surgery; twenty seven bed hospital. For details, write: Mrs. Mary Breckinridge, Director, Wendover, Kentucky. C

SURGEON WANTED—YOUNG; BOARD CERTIFIED or eligible; to associate with a Board Surgeon in 10 man Iowa group; present surgeon's practice enough for two men; early partnership. Write: Box 6318 C, % AMA.

WANTED—PHYSICIAN TO DO GENERAL PRACTICE to associate with small group in West Texas; starting salary $12,000; complete modern hospital and clinic facilities; wonderful opportunity for advancement. Box 6490 C, % AMA.

GENERAL PRACTITIONER WITH SOME SURGICAL training or experience; well established small group; Los Angeles area; good starting salary with opportunity for partnership; license required; write fully. Box 6542 C, % AMA.

WANTED—FULL TIME PHYSICIAN FOR RAILWAY; must be eligible for license in Virginia, West Virginia, and Ohio. Box 6549 C, % AMA.

WANTED—SURGEON; MODERN ACCREDITED 111 bed general hospital; 3 diplomates on staff; furnished three bedroom apartment available. Manager, Veterans Administration Hospital, Miles City, Montana. C

WANTED — ANESTHESIOLOGIST TO ASSOCIATE with four man group, midwest; private practice, $15,000 to $18,000, early partnership; must have minimum of one year's approved training. Box 6553 C, % AMA.

PATHOLOGIST—ACTIVE 1,000 BED GM&S AND PSYchiatric hospital; increased pay rates now in effect. Inquiries to: Manager, VA Hospital, Lebanon, Pennsylvania. C

WANTED — INTERNIST, ORTHOPEDIC SURGEON and generalists for active medical service and intermediate service in a GM&S hospital. Contact: Manager, Veterans Administration Hospital, Dublin, Georgia. C

WANTED — RECENT GRADUATE TO JOIN THREE active men in general practice in small city North Dakota; salary, followed by early partnership to right man; start $12,000. Box 6414 C, % AMA.

ORTHOPEDIC SURGEON—BOARD CERTIFIED OR eligible in well established midwestern Illinois group; good starting salary; early partnership; give full information in first letter. Box 6554 C, % AMA.

ANESTHESIOLOGIST WANTED — ANESTHESIOLOgist with good training wanted to join 3 man group in California; very pleasant and lucrative practice; partnership after one year. Box 6517 C, % AMA.

LOOKING FOR YOUNG MAN WHO HAS HAD PART or full time training in urology and is interested in working with Board certified urologists. Box 6534 C, % AMA.

WANTED — ASSOCIATE FOR BOARD CERTIFIED pediatrician in pediatric department of 15 man group in northern Illinois; Guaranteed salary 1st year with early partnership available. Box 6571 C, % AMA.

WANTED — RADIOLOGIST TO ASSOCIATE WITH radiologist in hospital and office practice in southeast Florida; Florida license required; must be eligible for isotope and cobalt therapy. Box 6586 C, % AMA.

INTERNIST—BOARD OR ELIGIBLE; GROUP OF 12 men located in suburban area near large Illinois city; salary with early partnership; state training and experience in reply. Box 6556 C, % AMA.

ANESTHESIOLOGIST—CERTIFIED OR ELIGIBLE; TO join anesthesiologist group on fee for service basis in midwestern city; above average income. Box 6578 C, % AMA.

WANTED—WELL TRAINED YOUNG SURGEON TO join 10 man midwestern group in July, 1959; thoracic experience desirable. Write: Box 6467 C, % AMA.

INTERNS AND RESIDENTS WANTED

*The * signifies a hospital approved for internships and the + approved for residencies in specialties by the Council on Medical Education and Hospitals of the A. M. A. Consult Council's approved list for types of internships and residencies approved.*

KANSAS — RESIDENCIES IN PSYCHIATRY; UNIversity of Kansas Medical Center; newly reorganized educational program with full three year approval; sixty-two in patient beds with day hospital facilities for additional twenty patients are part of progressive University Medical Center; broad experience in dynamic psychiatry with emphasis on development of psychotherapeutic skills under optimal supervision; active division of child psychiatry; physiological and pharmacologic therapies; social, community and preventive psychiatry; psychosomatic medicine; neurology and psychoanalysis; consultation service emphasizes comprehensive approach to patient and his therapy; residents participate in teaching and research activities of department; stipends range from $2,200 to $6,000; applications now being considered. For details write to: Donald C. Greaves, M.D. Professor of Psychiatry, Kansas University Medical Center, Kansas City 12, Kansas. D

RESIDENT INTERN REQUIRED IMMEDIATELY FOR period of one year for 107 bed general non-profit, community hospital; hospital approved by Joint Commission on Hospital Accreditation but internship not approved for training by AMA Council on Medical Education; hospital does not participate in Visitor's Exchange Program; duties consist of accident room work; work up of ward patients, deliveries and first assistant at operations; alternate hours with present resident; will accept graduate of foreign approved medical school seeking to familiarize himself with American practice; salary $400 monthly and full maintenance. Contact: Intern Committee, Union Hospital, Elkton, Maryland. D

FLORIDA — ASSISTANT SURGICAL RESIDENT IN recently opened 272 bed private hospital; organized teaching program; emergency room and outpatient departments; residency not yet approved; foreign graduates with permanent visa and good command of English language will be considered; position open to women; allowance from $325 per month, without maintenance, depending upon experience; give full information concerning yourself in own handwriting first letter. For application write: Director of Medical Education, Baptist Memorial Hospital, 800 Miami Road, Jacksonville 7, Florida. D

THREE YEAR APPROVED PSYCHIATRIC RESIdencies; university teaching hospitals; now considering applications for limited number of positions remaining for July, 1959; integrated training program, supervised psychotherapy seminars; lectures, research opportunities; psychoanalytic, psychosomatic, social science approaches, opportunities for advanced experience in child psychiatry, psychoanalysis; stipends: $3,350, $4,000, $4,650, $5,825, $6,000. Contact: Dr. George C. Ham, Psychiatric Training and Research Center, North Carolina Memorial Hospital, Chapel Hill, North Carolina. D

NEW UNIVERSITY AFFILIATED HOSPITAL*+; 210 beds, East Bronx; ¼ million dollar research facilities; needs first or second year resident in medicine. Write: Medical Director, Misericordia Hospital, 531 East 86th Street, New York City. D

(Continued on page 66)

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1. Lubowe, I. I.: Am. Pract. & Digest. Treat. 7:902, 1956. 2. Modelmog, M. L.: Am. Pract. & Digest. Treat. 8:1763, 1957. 3. Cornbleet, T., et al.: J. Invest. Dermat. 27:61, 1956.

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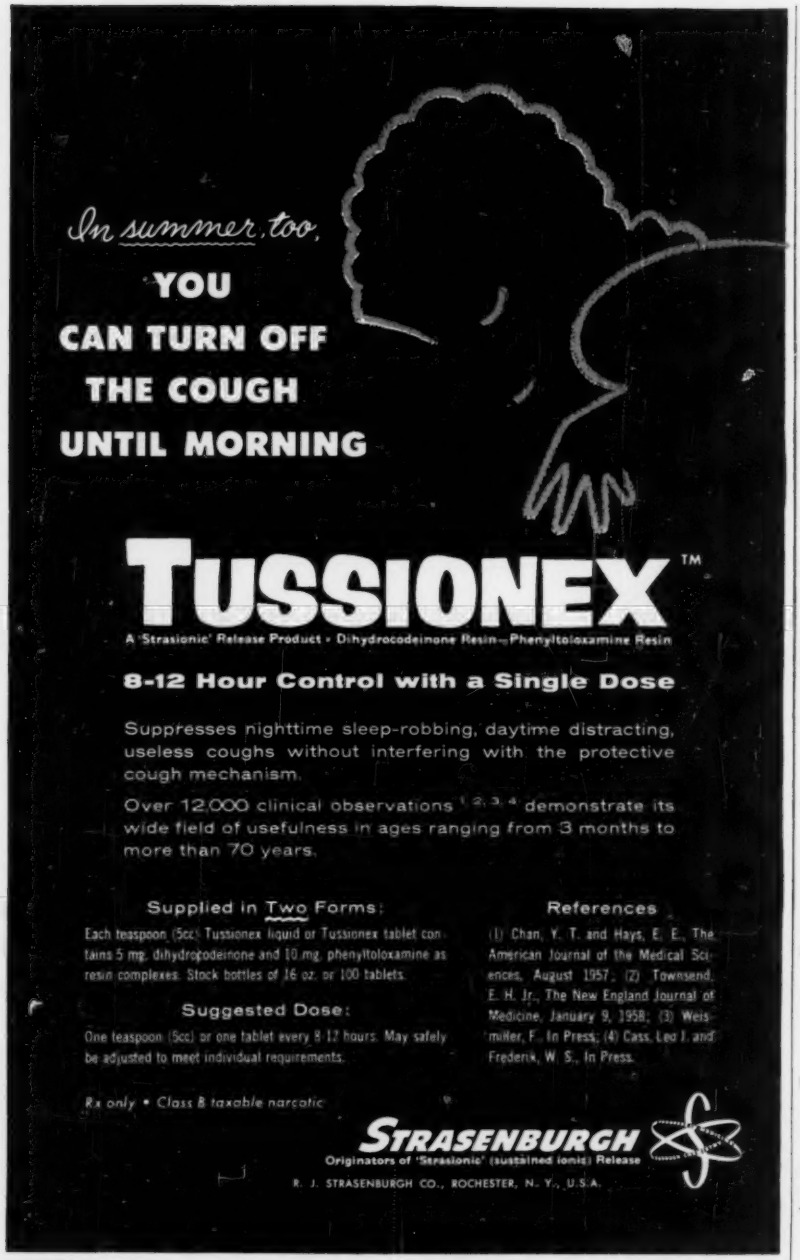
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References
(1) Chan, Y. T. and Hays, E. E., The American Journal of the Medical Sciences, August 1957; (2) Townsend, E. H. Jr., The New England Journal of Medicine, January 9, 1958; (3) Weismiller, F., In Press; (4) Cass, Leo J. and Frederik, W. S., In Press.
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(Continued from page 64)

RESIDENCY IN NEUROLOGICAL MEDICINE—Massachusetts Memorial Hospitals, Boston, Massachusetts; one year approved program with emphasis on neurological aspects of systemic disease; neurological service is autonomous division within Department of Medicine; prefer second or third year resident; supervision by Board Certified neurologist and associate; salary $3,600 per annum. Apply: Dr. Charles A. Kane, Professor of Neurology, Boston University School of Medicine, 80 E. Concord Street, Boston, Massachusetts. D

THE DEPARTMENT OF OPHTHALMOLOGY OF THE Royal Victoria Hospital, Montreal, offers approved residencies of three years duration; clinical and didactic instruction in all phases of ophthalmology; graduation from approved medical school and rotating internship required; appointments available to commence July 1, 1959; salary and maintenance. For information, apply to: The Executive Director, Royal Victoria Hospital, Montreal 2, Canada. D

INTERNSHIPS — ROTATING; AVAILABLE JULY 1, 1958; fully approved 376 bed modern hospital*+; integrated teaching program; Board diplomates in all specialties; stipend $250 month; full maintenance; approved residencies in urology, general surgery, radiology and pathology; residencies in medicine and general practice pending approval. Write: Administrator, St. Vincent's Hospital, Erie, Pennsylvania. D

RESIDENCIES IN PEDIATRIC PATHOLOGY AND hematology available July 1, 1959; hospital maintains excellent educational and research programs and is affiliated with two medical schools. Apply: E. Clarence Rice, MD, Director of Laboratories, Children's Hospital+, Washington 9, D. C. D

RESIDENCY IN NEUROLOGICAL SURGERY; Approved four year program in association with the University of Virginia. Apply: Manager, Veterans Administration Hospital+, Richmond 19, Virginia. D

RESIDENCIES IN PSYCHIATRY—UNIVERSITY OF Oklahoma Medical Center; three year approved training provides broad experience in dynamic psychiatry with intensive psychotherapy of in-patients and out-patients; physiological and pharmacological therapies; neurology; child psychiatry; social and preventive psychiatry; behavioral sciences; psychoanalysis; psychosomatic medicine; residents participate in research and teaching; optimal supervision, excellent case material; complete curriculum; stipends first year $4,500; second year $5,000; third year $5,000; applications now being considered for residencies beginning July, 1959. For details write: Louis Jolyon West, MD, Professor of Psychiatry, University of Oklahoma School of Medicine and University Hospitals, 800 N. E. 13th Street, Oklahoma City 4, Oklahoma. D

BOARD APPROVED RESIDENCIES AVAILABLE IN internal medicine*+; first, second and third year; stipend $3,900 to $4,300 yearly plus furnished apartment. Box 6561 D, % A.M.A.

GENERAL SURGICAL RESIDENCY AVAILABLE IN the San Francisco-Oakland Bay area; four years fully approved program on a general surgical service in a 712 bed general medical and surgical Veterans Administration Hospital+ with a full consultative staff from the University of California and Stanford Schools of Medicine; affiliated services as required are available in other hospitals of the area; applicants must be U. S. or Canadian citizens who are graduates of approved medical schools; salary range from $5,250 to $4,945 per annum depending on previous training. Apply to: Director, Professional Services, Veterans Administration Hospital, 13th and Harrison Streets, Oakland 12, California. D

NEW YORK CITY—RESIDENTS; A PSYCHIATRIC service in a general hospital with approved three-year training program; all para-medical services fully operative; located in the Greenwich village section of New York City; physical plant modern, up-to-date, recently constructed; this general hospital consists of 830 beds covering all specialties, and including a current capacity of 82 beds in a psychiatric pavilion; affiliated with New York University-Bellevue Medical Center; residencies available on 1st, 2nd, and 3rd year levels; for further information write the Administrator, St. Vincent's Hospital of the City of New York, 153 W. 11th Street, New York 11. Applications now being accepted for training year beginning July 1, 1959. D

PSYCHIATRY—BARNES HOSPITAL;*+ 3 YEAR APproval; versatile residency offering supervised dynamic psychotherapy, excellent opportunities for research, training in neurology, recognized child guidance clinic, outpatient and inpatient therapy in new university psychiatric hospital, psychosomatic medicine closely allied with internal medicine; close liaison of University with psychoanalysts; St. Louis a city with artistic, intellectual facilities, program and salary flexible; full maintenance. Write: E. F. Gildea, MD, Department of Psychiatry and Neurology, Washington University Medical School, St. Louis, Missouri. D

APPROVED RESIDENCIES — INTERNAL MEDICINE available quarterly, Veterans Administration Center, Dayton, Ohio; 3-4 year program; citizenship required or else graduate of approved Canadian or USA medical school; affiliated and supervised by Ohio State University Medical School; salary $3,250 to $4,945 per year; approved for benefits under Public Law 550; outstanding record with Specialty Board significantly higher than National averages. Apply: Dr. S. Simerman, Chief, Medical Service, Veterans Administration Center, Dayton, Ohio. D

CAREER RESIDENCY—IN PATHOLOGY AVAILABLE immediately in large general medical and surgical hospital; very active autopsy and surgical pathology services, as well as comprehensive and didactic program in clinical pathology; 5 full time and 5 consulting attending pathologists; 4 year Board approval; salary $6,505 to $9,890 per annum depending on professional experience; applicants must be graduates of approved medical school and U. S. citizen. For further information, write: Chief, Laboratory Service, Veterans Administration Hospital, Hines, Illinois. D

RESIDENCY — INTERNAL MEDICINE; APPROVED one year; Veterans Administration Hospital in Los Angeles, affiliated with three medical schools; quarters and maintenance available for unmarried residents; hospital*+ in San Fernando Valley, 12 miles from UCLA; includes 3 month out patient service, UCLA; successful completion one year will make resident eligible acceptance by Veterans Administration Center, Los Angeles, for remainder residency requirement. Write: Manager, Veterans Administration Hospital, Sepulveda, California D

RADIOLOGY RESIDENCY AVAILABLE — 650 BED general hospital*+; midwest; complete three year resident training for American Board of Radiology; large new department including therapy and isotope divisions; complete teaching facilities; staffed with three Board Certified radiologists and six residents; 39,145 examinations, and 2,142 therapy patients treated last year; good private housing facilities available; stipends from $325 to $400 per month. Apply: Box 5670 D, % AMA.

RESIDENCIES—MENNINGER SCHOOL OF PSYCHIatry; approved three year program; balanced clinical and didactic training including psychotherapy and somatic therapies, outpatient and child psychiatry; at Veterans Administraton, State and Menninger Hospitals*; affiliated with Topeka Institute for Psychoanalysis; five year appointments combining residency and staff experience for Board Eligibility available at staff salaries. Write: Registrar, Menninger School of Psychiatry, Topeka, Kansas. D

VETERANS ADMINISTRATION HOSPITAL, ANN ARbor, Michigan, a general medical and surgical hospital; positions available; psychiatric residencies; affiliated with the University of Michigan offering a fully accredited three year, well balanced didactic and seminar program; opportunity for experience in an approved new children's residential psychiatric treatment center; must be an American citizen. Write: Paul M. Ireland, MD, Manager, Veterans Administration Hospital, Ann Arbor, Michigan. D

PSYCHIATRIC RESIDENCY VACANCIES — APproved three year residency in conjunction with Northwestern University Medical School; extensive training program in clinical psychology, vocational counseling, social service, and related fields; salary ranges from $3,250 to $4,165; and for career residents $6,505 to $9,890; hourly commuting distance Chicago. Write: Manager, Veterans Administration Hospital, Downey, North Chicago, Illinois. D

RESIDENCY — INTERNAL MEDICINE; 1300 BED general hospital+; 3 year; teaching unit, Baylor University College Medicine; female, private, out-patient medicine; includes all sub-specialties under supervision of Board certified specialists; stipend $3250 to $4165; radioisotopes, pulmonary function, research, etc.; must be U. S. citizen or graduates of U. S. or Canadian medical schools. W. D. Bennett, MD, Veterans Administration Hospital, Houston, Texas. D

WANTED—RESIDENTS IN ANESTHESIOLOGY, 1 OR 2 years training available; AMA approved; large new hospital, D. C. area; room, board, and stipend; apply at once, giving full information. Box 6448 D, % AMA.

(Continued on page 71)

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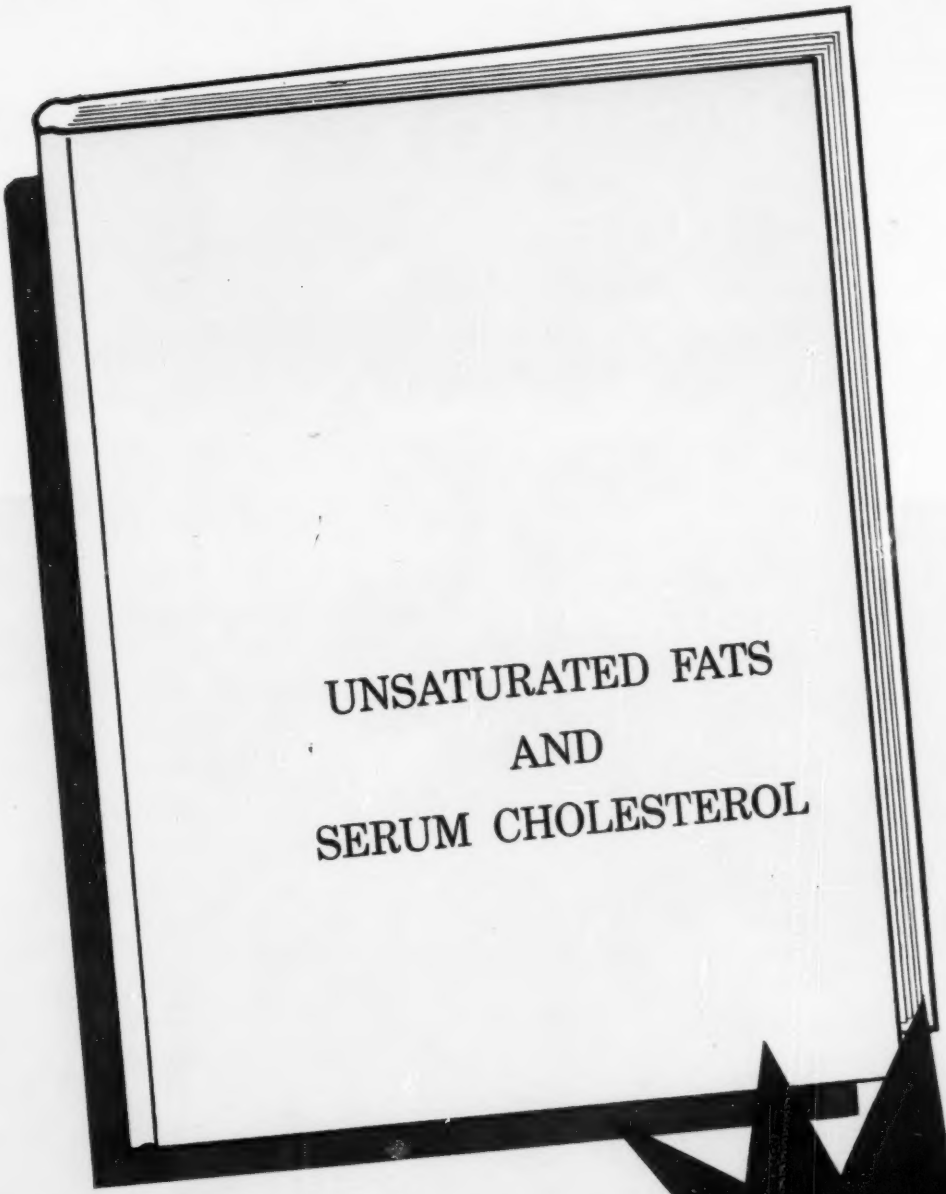

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This new book is the most up-to-date annotated bibliography on current research pertaining to:

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2. The effect of different dietary fats on serum cholesterol levels;
3. The nature of the active components in vegetable oils;
4. Suggestions for practical diets.

As a regular part of daily meals Mazola® Corn Oil can be used for control of serum cholesterol levels

MAZOLA CORN OIL, a natural food and a superior salad and cooking oil, used as part of the daily diet, can be helpful in the control of serum cholesterol levels.

Extensive clinical findings now show that serum cholesterol levels tend to be lower when an adequate amount of MAZOLA CORN OIL is part of the daily meals . . . high levels are lowered, normal levels remain normal.

MAZOLA . . . the only readily available vegetable oil made from golden corn oil . . . is rich in the important unsaturated fatty acids. 85% of all the fatty acids in MAZOLA are unsaturated and 56% of the fatty acid content is linoleic.

As a result, MAZOLA CORN OIL is unusually well suited for helping achieve dietary adjustments commonly recommended by authorities on nutrition—that from one-third to one-half of the total fat in-take should be of the unsaturated type when serum cholesterol control is a problem.

Being a natural food, MAZOLA CORN OIL can be included as part of the every day meals—simply and without disturbing the patient's usual eating habits.

EACH TABLESPOONFUL OF MAZOLA* CORN OIL PROVIDES APPROXIMATELY 126 CALORIES – AND:

Linoleic Acid	7.4 Gm.
Sitosterols	130 mg.
Natural Tocopherols	15 mg.

TYPICAL AMOUNTS PER DIET

For a 3600 calorie diet	3 tablespoonsful
For a 3000 calorie diet	2.5 tablespoonsful
For a 2000 calorie diet	1.5 tablespoonsful

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CORN PRODUCTS REFINING COMPANY

THE BRIGHT SIDE

by E. K. H.

An aspiring manufacturer, resplendent in new golfing clothes and equipped with magnificent new clubs in the finest of leather golf bags, took a wild swipe at the ball on the first tee and sent it soaring into the rough directly right of the tee. He motioned for his caddy to follow him and strode towards the hidden ball.

"Which club would you like, sir?" asked the caddy.

The man stood surveying the situation for a moment. Then he glanced into the bag.

"I think, caddy," he replied, "I'll take that twenty-two-fifty one."

•

An expensive motion picture was in production on a major Hollywood film lot and the front office was screaming about the delays in shooting a certain scene. The director had about reached the breaking point after spending three days trying to get a certain scene right. Grabbing the bosomy star by the hand, he whirled her around to face him.

"Your expression and gestures are still wrong!" he shouted. "Do you realize this is the 15th time we've done this scene today? What's the matter with you?"

He started to walk away as the girl drew herself up indignantly. Turning back a moment, he pointed a trembling finger at her chest and exclaimed:

"Oh, if those were only brains!"

•

Cal Koven, Miami Beach's topflight builder, tells the story of a British economist who finally succumbed to the lure of a lucrative two-week lecture tour in the United States. His dynamic agent met him on his arrival at the airport.

"Glad to see you, Beynsbee," he boomed. "Looks like we've booked a pretty tight schedule for you. Let's see—Baton Rouge tonight, Pawnee Junction tomorrow . . . then Santa Fe . . . Green River . . . Jacksonville . . . Grand Forks . . . Sheboygan . . . Council Bluffs . . . and ending in Wilmington. By the way, your plane to Baton Rouge leaves in seven minutes."

Grabbing his arm, the agent led the bewildered pundit to a waiting plane, handed him his itinerary, and a raft of tickets and left him to his fate.

At the end of the fortnight the economist appeared, worn and haggard, at the booking office.

"Well," cried the agent. "Was everything all right? Did you cover all the spots in your itinerary?"

"Oh, yes."

"And how did the lectures go?"

"Lectures?" came the answer. "Good heavens, man, who lectured? I barely had time to make plane connections!"

•

"Henry," said the minister, "you asked me last Sunday to pray for Miss Annabelle Lee. Would you like me to repeat the prayer at this week's service?"

"No, thanks, Reverend," came the answer. "I don't think it would work twice. She won her race last Monday and paid 7 to 1."

•

A Connecticut man has just donated a loudspeaker system to the church—in memory of his late wife.

"Would you please butcher my pig for me."

BOOKS RECEIVED

Books received by THE JOURNAL *are acknowledged in this column. Selections will be made for more extensive review in the interests of* THE JOURNAL *readers as space permits. Books listed in this department are not available for lending or sale through the American Medical Association.*

Progress in Psychotherapy. Volume III: Techniques of Psychotherapy. Edited by Jules H. Masserman, M.D., Professor of Neurology and Psychiatry, Northwestern University, Chicago, and J. L. Moreno, M.D., Director, Institute of Psychodrama and Group Psychotherapy, New York. Coordinating editor of series: J. L. Moreno. Cloth. $8.50. Pp. 324, with illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; 99 Great Russell St., London, W. C. 1, England, 1958.

Selected Writings of John Hughlings Jackson. Volume One: On Epilepsy and Epileptiform Convulsions. Volume Two: Evolution and Dissolution of the Nervous System, Speech, Various Papers, Addresses and Lectures. Edited for the Gurantors of "Brain" by James Taylor, M.D., F.R.C.P. With advice and assistance of Gordon Holmes, M.D., F.R.C.P., and F. M. R. Walshe, M.D., F.R.C.P. Cloth. $15 the set. Pp. 500; 510. Basic Books, Inc., 59 Fourth Ave., New York 3, 1958.

Mould Fungi and Bronchial Asthma: A Mycological and Clinical Study. Volume I. By P. J. van der Werff, Head of Amsterdam Clinic for Allergic Diseases, Amsterdam. With foreword by Prof. Dr. Johanna Westerdijk, Director of Centraalbureau voor Schimmelcultures, Baarn, Netherlands. Cloth. $7.50. Pp. 174, with 67 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; H. E. Stenfert Kroese N. V., Pieterskerkhof 38, Leiden, Holland, 1958.

VD Fact Sheet 1957: Basic Statistics on the Venereal Disease Problem in the United States. U S. Department of Health, Education, and Welfare, Public Health Service, Bureau of State Services, Communicable Disease Center, Venereal Disease Branch, Atlanta, Georgia. Public Health Service publication no. 341. Fourteenth revision. Paper. Pp. 22. Govern. Print. Off., Washington 25, D. C., 1958.

Modern Clinical Psychiatry. By Arthur P. Noyes, M.D., Superintendent, Norristown State Hospital; Norristown, Pennsylvania, and Lawrence C. Kolb, M.D., Professor and Executive Officer, Department of Psychiatry, College of Physicians and Surgeons, Columbia University, New York. Fifth edition. Cloth. $8. Pp. 694. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W. C. 2, England, 1958.

Vitamin D und Kariesprophylaxe. Bericht über die I. wissenschaftliche Tagung am Zahnärztlichen Institut der Universität Bern, 8.-9. März 1956. Bieheft zur Internationalen Zeitschrift für Vitaminforschung, nr. 7. Paper. 24.90 marks. Pp. 150, with illustrations. Verlag Hans Huber, Marktgasse 9, Bern 16, Switzerland; [Intercontinental Medical Book Corporation, 381 Fourth Ave., New York 16], 1958.

Manual of Medical Emergencies. By Stuart C. Cullen, M.D., Professor of Surgery; Chairman, Division of Anesthesiology, State University of Iowa College of Medicine, Iowa City, and E. G. Gross, M.D., Professor and Head of Department of Pharmacology, State University of Iowa College of Medicine. Third edition. Cloth. $5.75. Pp. 302, with 41 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1958.

Jahresbericht Borstel. Vierter Band: 1956/1957. Tuberkulose-Forschungsinstitut Borstel, Institut für experimentelle Biologie und Medizin. Herausgegeben von Enno Freerksen. Mit Beiträgen von G. Berg et al. Cloth. 93 marks. Pp. 778, with illustrations. Springer-Verlag, Reichpietschufer 20, (1) Berlin W. 35 (West-Berlin); Neuenheimer Landstrasse 24, Heidelberg; Göttingen, Germany, 1957.

The Year Book of Endocrinology (1957-1958 Year Book Series). Edited by Gilbert S. Gordan, M.D., Ph.D., F.A.C.P., Associate Professor of Medicine, Chief of Endocrine Clinics, Department of Medicine, University of California School of Medicine, San Francisco. Cloth. $7.50. Pp. 381, with 79 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1958.

(Continued on next page)

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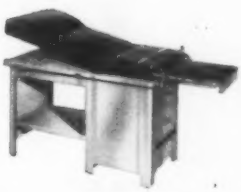
Pediatric



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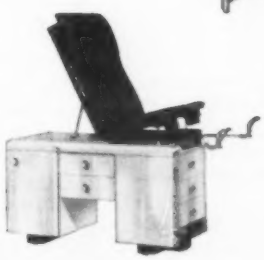

Irrigator

Since 1860

(Continued from page 66)

SEATTLE, WASHINGTON, PINEL FOUNDATION HOSPITAL+; positions available for 2 well qualified 3rd or 4th year psychiatric residents in 1959; principal training is in psychological treatment of inpatients, with additional training according to individual needs and interests. Address inquiries to: R. Hugh Dickinson, MD, Medical Director, 2318 Ballinger Way, Seattle 55, Washington. D

PATHOLOGY RESIDENCIES—ONE IMMEDIATE; ONE July 1st; 600 bed general hospital*+ approved for 4 year program, modern, well equipped laboratory; an unusual opportunity to combine research and pathology training; good private housing facilities available; stipends from $325 to $400 per month. Apply: E. M. Knights, Jr. MD, Director of Pathology, Hurley Hospital, Flint, Michigan. D

PATHOLOGY—4 YEAR APPROVED RESIDENCIES IN pathologic anatomy and clinical pathology; approximately 12,000 surgicals, 600 autopsies and 600 frozen sections performed per year; staff includes 4 pathologists; Ph.D., biochemist, Ph.D; bacteriologist and part time neuropathologist and hematologist. Communicate immediately with: Dr. Herbert Fanger, Rhode Island Hospital*+, Providence 2, Rhode Island. D

AVAILABLE IMMEDIATELY—FIRST YEAR SURGICAL residency in four year approved program; rapidly enlarging community; graduates of approved schools only. Answer: Box 6273 D, % AMA.

RADIOLOGY RESIDENCY AVAILABLE — 500 BED general hospital*+; midwest; complete three year resident training for American Board of Radiology; large department including therapy and isotope division; complete teaching facilities; staffed with three radiologists; good housekeeping facilities available; stipend $275 per month. Apply: Chief Radiologist, Aultman Hospital, Canton 10, Ohio. D

APPROVED RESIDENCIES IN MEDICINE, PSYCHIATRY, pathology—Available January 1, 1959; 684 bed county hospital*+ near New York City; exceptional educational opportunity; only applicants who have completed one year approved internships will be considered; stipend $200 monthly plus complete maintenance. Apply: Superintendent, Bergen Pines County Hospital, Paramus, New Jersey. D

TWO YEAR APPROVED PEDIATRIC RESIDENCY; northern California; organized teaching program with eight full time Board Pediatricians; appointments available immediately and throughout year; California licensure eligibility required; salary $315 to $390. Contact: Alexander King, MD, Chief, Pediatrics Department, Kaiser Foundation Hospital*+, Oakland 11, California. D

GENERAL RESIDENT PHYSICIAN FOR 100 BED short term general hospital; est; immediate opening; good salary; must be able to speak English fluently. Apply: Box 6507 D, % AMA.

(Continued on next page)

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3 Basically Different
Elastic Stockings

Kendrick Elastic Stockings are individualized for specific varicosities and for your patient's type. There are different types of construction — different kinds of knitting — different degrees of pressure. For the proper support elastic stockings are supposed to give, you can depend on Kendrick. Check these basically different models:

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(Continued from preceding page)

APPROVED THREE YEAR RESIDENCY INTERNAL medicine; one opening August 15; one January 1, 1959; as assistant resident for a graduate of approved school to complete staff of 20 trained interns and residents; active teaching; 40% service cases; 45,000 patients a year in emergency room and clinics. Apply: Robert S. Green, MD, Memorial Heart Laboratory, St. Mary's Hospital, Cincinnati 14, Ohio. D

OPHTHALMOLOGY RESIDENCIES — GEORGETOWN University Medical Center, Washington, D. C., approved 3 year program includes basic science; 4th year graduate degree program available; affiliated services Veterans Administration and D. C. General Hospital. Apply: Program Director, Ophthalmology, Georgetown University Medical Center, 3800 Reservoir Road, N. W., Washington, D. C. D

SURGICAL RESIDENCY — FOUR YEAR APPROVAL obtained in 1958; 320 bed general hospital*+; large volume of private and clinic material; active intern and residency program with approval all major specialties; full time director of medical education; now accepting applications at all levels. Write: Director of Medical Education, De Paul Hospital, Norfolk 5, Virginia. D

WANTED—ASSISTANT RESIDENT IN OROLARYNgology; Strong Memorial Hospital*+, Rochester, New York; to fill unexpected vacancy. Administrator's Office, Strong Memorial Hospital. D

RESIDENTS IN PATHOLOGY—STIPEND RANGING up to $450 depending on level of training; 4 year American board fully approved program in all phases of clinical and anatomical pathology in a modern accredited 650 bed general hospital. For particulars apply to: E. Palik, MD, Director of Laboratories, St. John's Hospital, Tulsa, Oklahoma. D

RESIDENCIES—INTERNAL MEDICINE; ACTIVE 300 bed general hospital; approved 3 year residency program; full time Board specialists teaching; salaries range from $315 to $415, depending upon year of training and family status; eligible California licensure. Write: Director of Education, Kaiser Foundation Hospital*+, 280 W. MacArthur Boulevard, Oakland 11, California. D

APPROVED ROTATING INTERNSHIPS—ONE YEAR internship January 1, 1959; 684 bed county hospital*+ near New York City; exceptional educational opportunity; only applicants of approved medical schools will be considered; stipend $100 monthly plus complete maintenance. Apply: Bergen Pines County Hospital, Paramus, New Jersey. D

ANESTHESIOLOGY RESIDENCIES—AT UNIVERSITY of Minnesota Hospitals, Minneapolis Veterans Administration Hospitals and associated hospitals; an opening every 4 weeks. Address: Frederick H. Van Bergen, MD, Director of Anesthesiology, University of Minnesota Hospital, Minneapolis, Minnesota. D

(Continued on page 74)

(Books Received Continued)

Gestation. Transactions of the Fourth Conference, March 5, 6, and 7, 1957, Princeton, N. J. Edited by Claude A. Villee, Ph.D., Associate Professor of Biological Chemistry, Department of Biological Chemistry, Harvard Medical School, Boston. Sponsored by Josiah Macy, Jr. Foundation. Cloth. $4.50. Pp. 216, with 64 illustrations. Josiah Macy, Jr. Foundation, 16 W. 46th St., New York 36, 1958.

Bericht über die Tuberkulose-Tagung der Deutschen demokratischen Republik, vom 7. bis 9. Juni 1956 in Weimar. Herausgegeben von Dr. F. Heisig, und Dr. P. Steinbrück. Ergänzungsheft zur Zeitschrift für Tuberkulose Band 110. Paper. Pp. 259-472, with illustrations. Johann Ambrosius Barth, Salomonstrasse 18 B, Leipzig C. 1; Bismarckstrasse 1, Munich 23, Germany, 1958.

Viruses and Tumor Growth. Eleventh annual symposium on fundamental cancer research, March 7, 8 and 9, 1957, University of Texas M.D. Anderson Hospital and Tumor Institute, Houston 25, Texas. Reprinted from Texas Reports on Biology and Medicine, volume 15, number 3, 1957. Cloth. Pp. 378, with illustrations. University of Texas Press, Austin 12, n. d.

Animal Disease and Human Health. Ann. New York Acad. Sc., vol. 70, art. 3. Editor in chief: Otto v. St. Whitelock. Managing Editor: Franklin N. Furness. Associate editor: Peter A. Sturgeon. Conference chairman and consulting editor: James Lieberman. Paper. Pp. 227-762, with illustrations. New York Academy of Sciences, 2 E. 63rd St., New York 21, 1958.

Proceedings of the Ninth Annual Conference on the Nephrotic Syndrome. Edited by Jack Metcoff, M.D. Held at National Institutes of Health, Bethesda, Maryland, October 24-26, 1957. Sponsored by National Nephrosis Foundation, Inc. Paper. $5.25. Pp. 248, with 81 illustrations. National Nephrosis Foundation, Inc., 143 E. 35th St., New York 16, 1958.

Frazer's Anatomy of the Human Skeleton. Edited by A. S. Breathnach, M.D., M.Sc., Senior Lecturer in Anatomy, St. Mary's Hospital Medical School, London. Fifth edition. Cloth. $10. Pp. 247, with 197 illustrations. [Little, Brown & Company, 34 Beacon St., Boston 6]; J. & A. Churchill, Ltd., 104 Gloucester Place, Portman Sq., London, W. 1, England, 1958.

Reflexogenic Areas of the Cardiovascular System. By C. Heymans, M.D., Professor of Pharmacology, University of Ghent, Belgium, and E. Neil, M.D., D.Sc., John Astor Professor of Physiology, University of London, Middlesex Hospital Medical School, London. Cloth. $10. Pp. 271, with 89 illustrations. Little, Brown & Company, 34 Beacon St., Boston 6, 1958.

Antisera, Toxoids, Vaccines and Tuberculins in Prophylaxis and Treatment. By H. J. Parish, M.D., F.R.C.P.E., D.P.H. Fourth edition. Cloth. $7. Pp. 256, with illustrations. Published for Wellcome Foundation, Ltd., by E. & S. Livingstone, Ltd., 16 and 17 Teviot Place, Edinburgh, Scotland; Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1958.

Ophthalmic Plastic Surgery. By Sidney A. Fox, M.S.(Ophth.), M.D., F.A.C.S., Associate Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School, New York. Second edition. Cloth. $15. Pp. 324, with 149 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; 99 Great Russell St., London, W. C. 1, England, 1958.

Religious Doctrine and Medical Practice. By Richard Thomas Barton, M.B., B.S., M.D. Foreword by Raymond B. Allen, M.D. Cloth. $3.75. Pp. 94. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 24-25 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, Canada, 1958.

Aids to Medical Diagnosis. By G. E. Frederick Sutton, M.C., M.D., F.R.C.P. Eighth edition. Cloth. $3.50. Pp. 399, with 47 illustrations Baillière, Tindall & Cox, 7-8 Henrietta St., Covent Garden, London, W. C. 2, England; [Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2], 1958.

A Physician Looks at Psychiatry. By Jacques M. May, M.D. Cloth. $3.50. Pp. 189. John Day Company, Inc., 210 Madison Ave., New York; Longmans, Green & Company, Ltd., 20 Cranfield Rd., Toronto 16, Canada, 1958.

FAST-ACTING ORAL BROAD-SPECTRUM THERAPY. The modern blue and yellow ACHROMYCIN V Capsules, combining equal parts of pure crystalline ACHROMYCIN Tetracycline HCl and Citric Acid, provide unsurpassed oral broad-spectrum therapy.

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(Continued from page 72)

ANESTHESIOLOGY RESIDENCIES — APPROVED two year active teaching program with unusually wide clinical experience; opportunities for clinical, teaching and research appointments in hospital and medical college after completion of training. Write: C. M. Landmesser, MD, Director of Anesthesiology, Albany Medical Center*+, Albany, New York. D

RESIDENCIES IN PEDIATRICS — APPROVED 250 bed general hospital*+ in San Francisco; two year approval; large outpatient department and clinic service; stipend $325 per month first year, plus maintenance. Contact: Educational Committee, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California. D

RESIDENTS — CURRENT YEAR AND 7-1-59; GENERAL rotating residency in well equipped 174 bed hospital, located in attractive mountain, seaside resort city; United States citizenship, one year internship and eligibility for California license required; salary $560 per month. Apply to: Director, County Hospital, Santa Cruz, California. D

ORTHOPEDIC RESIDENCY — MAJOR MIDWEST teaching hospital*+ has an unexpected vacancy to the first year of its 4 year approved program. If interested send brief summary of training to date. Box 6562 D, % AMA.

INTERNSHIPS — ROTATING GENERAL; SEVERAL vacancies; now and in February; 370 bed fully approved hospital; 30 minutes from Times Square, New York; excellent educational program; $100 a month; 2 weeks vacation; full maintenance; member of Exchange Visitor Program. Apply: Christ Hospital*+, 176 Palisade Avenue, Jersey City 6, New Jersey. D

WANTED—RESIDENTS FOR 2 YEAR APPROVED program in pathology, salary $75 to $200 per month and maintenance, depending on qualifications; 500 bed modern chronic disease hospital. Apply: Superintendent, St. Barnabas Hospital+, New York 57, New York. D

SURGICAL RESIDENCY—1ST YEAR LEVEL; BOARD approved 4 year program; 400 bed teaching hospital*+ in New York City; affiliated with medical school for teaching of students; $475 month plus full maintenance; appointment available September 1958. Box 6471 D, % AMA.

RESIDENCIES IN INTERNAL MEDICINE; ONE BEginning January, 1959; the other beginning July, 1959; approved 560 bed general hospital; three year approval; large out-patient and clinic service. Apply: Assistant Superintendent, Allentown Hospital, Allentown, Pennsylvania. D

ANESTHESIOLOGY RESIDENCY—APPROVED; COMplete didactic and clinical training program; two years duration; appointments available. Write: Oral B. Crawford, MD, Director, Department of Anesthesiology, St. John's Hospital, Springfield, Missouri. D

RADIOLOGY RESIDENCY IMMEDIATELY AVAILable large Detroit Hospital for qualified applicant; approved three year program Diagnosis, therapy, isotope divisions; very active service; stipend starts $275. Box 6491 D, % AMA.

ANESTHESIOLOGY RESIDENCY — APPROVED 2 year integrated didactic and clinical program available now; complete maintenance and stipend. Apply: S. N. Surks, MD, Chief of Anesthesiology, Long Island Jewish Hospital*+, New Hyde Park, New York. D

ANESTHESIA RESIDENCIES — UNIVERSITY OF Vermont; two associated hospitals*+; active research program available: $2,000 annually. John Abajian, Jr., MD, Professor of Anesthesiology, University of Vermont, College of Medicine, Burlington, Vermont. D

SITUATIONS WANTED

SURGEON—DNB; BOARD CERTIFIED; FACS; 41; eligible Board of Thoracic Surgery; eastern trained; wide experience most phases of surgical handicraft; overseas WW II and Korea; former Chief of Surgery several Army hospitals; congenial, adaptable; desires to relocate with group, association, partnership or hospital in busy surgical practice, or position as medical director large industrial firm or hospital where there is need for an able surgeon with mature judgment; willing to travel; domestic or foreign; hard and willing worker; no family ties; excellent references; licensed 4 states; remuneration important consideration; available September 1st. Box 6602 I, % AMA.

NEUROPSYCHIATRIST — DIPLOMATE, INTERNAL Medicine; Certified, Neurology; Board Eligible, Psychiatry; qualified, EEG; experience includes 6 yrs. Chief, Neuro, very large hosps; 6 yrs. practice Neuro & Int Med; assistant prof, Neuro-Psy & Int Med; any location, would prefer East; numerous publications. Woodward Medical Bureau, 185 No. Wabash, Chicago 1. I

RADIOLOGIST — CERTIFIED; 31; MARRIED; EXperienced; eighteen months extra training in pediatric radiology; well recommended; desires active hospital or group department with future; prefers northeast coast of California; currently on university staff. Box 6619 I, % AMA.

IF IN NEED OF AMERICAN BOARD SPECIALISTS to head departments, physician for private practice, industry or public health, please write for recommendations. Woodward Medical Personnel Bureau, 185 N. Wabash, Chicago. I

ANESTHESIOLOGIST — DIPLOMATE; FELLOW American College; married; wishes to relocate, available immediately for private practice or group; has had great deal of experience in all forms of anesthesia. Box 6607 I, % AMA.

YOUNG PHYSICIAN WITH GRADUATE TRAINING and in first year medical residency desires to enter general practice with another physician or in solo practice; the southeast; deep south or midwest preferred; service requirements fulfilled. Box 6609 I, % AMA.

NEW JERSEY—GENERAL PRACTICE; DESIRE ASsociation with early partnership opportunity or with MD planning retirement; may include surgery and obstetrics; congenial conditions and growth possibilities important. Box 6614 I, % AMA.

PATHOLOGIST—39; CLINICAL AND ANAT.; BOARD certified; desires change of position; presently director of laboratory in 360 bed private hospital and on university staff; prefer Wisconsin or midwest; state salary and position. Box 6617 I, % AMA.

DANISH PHYSICIAN — 28; JUST FINISHED TRAINing seeking position as resident in general residency for one year starting January 1, 1959. Torben Weeke, Peter Bangsvej 245, Copenhagen, Valby, Denmark. I

SURGEON—32; VETERAN, FIVE YEARS SURGICAL training; passed part I surgery Board; desires association or location with individual or group in south or midwest. Box 6610 I, % AMA.

SURGEON—35; BOARD CERTIFIED; FAMILY; WIDE experience in general surgery; in private practice with medical school affiliation for 3 years; desires association or group practice. Box 6618 I, % AMA.

UROLOGIST — CERTIFIED; COMPETENT; PERSONable; age 44 years; reason, good environment with good schools anywhere. Box 6624 I, % AMA.

RADIOLOGIST — CERTIFIED; 15 YEARS TUMOR clinic; experienced radiation therapist; isotope training Oak Ridge; publications on cancer; experienced cancer teacher; prefers full time position for teaching institution. Box 6515 I, % AMA.

AVAILABLE—AMERICAN BOARD SPECIALISTS TO head departments, join groups, etc.; physicians for private practice, assistants or associates, industry, public health. Please write for recommendations. Shay Medical Agency, 55 E. Washington, Chicago. I

WELL TRAINED THORACIC SURGEON AVAILABLE January 1st; three years' training; general surgery; two years' training, thoracic surgery, teaching hospitals. Medical Bureau, Burnelee Larson, Director, 900 North Michigan Avenue, Chicago. I

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(Continued on page 76)

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(Continued from page 74)

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(Continued on page 78)

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1. Meprobamate is more widely prescribed than any other tranquilizer. Source: Independent research organization; name on request.
2. Baird, H. W., III: A comparison of Meprospan (sustained action meprobamate capsule) with other tranquilizing and relaxing agents in children. Submitted for publication, 1958.

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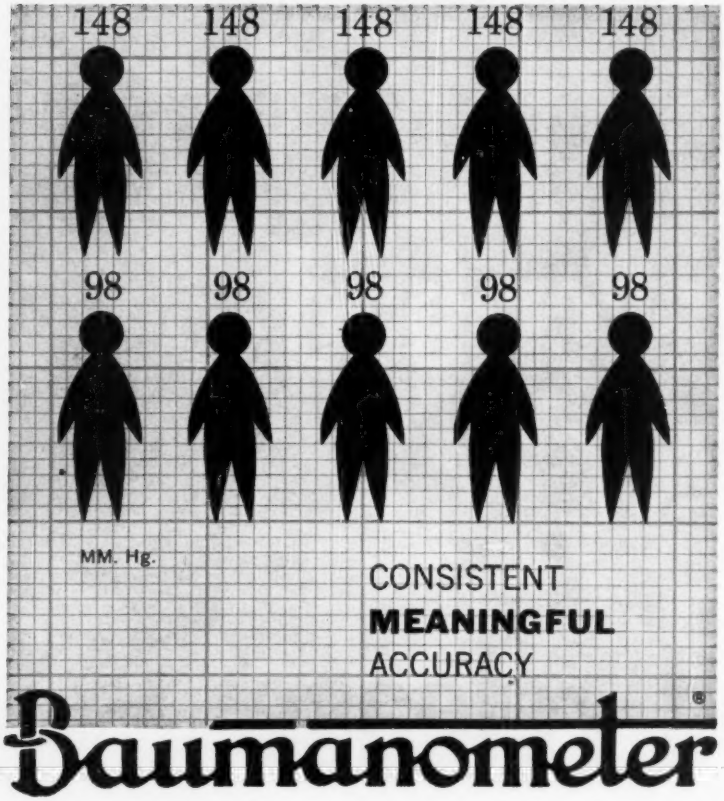

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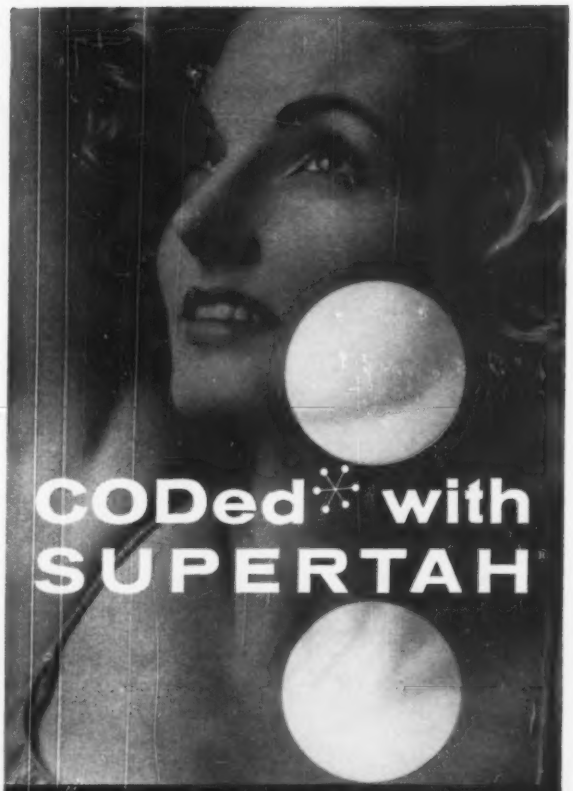

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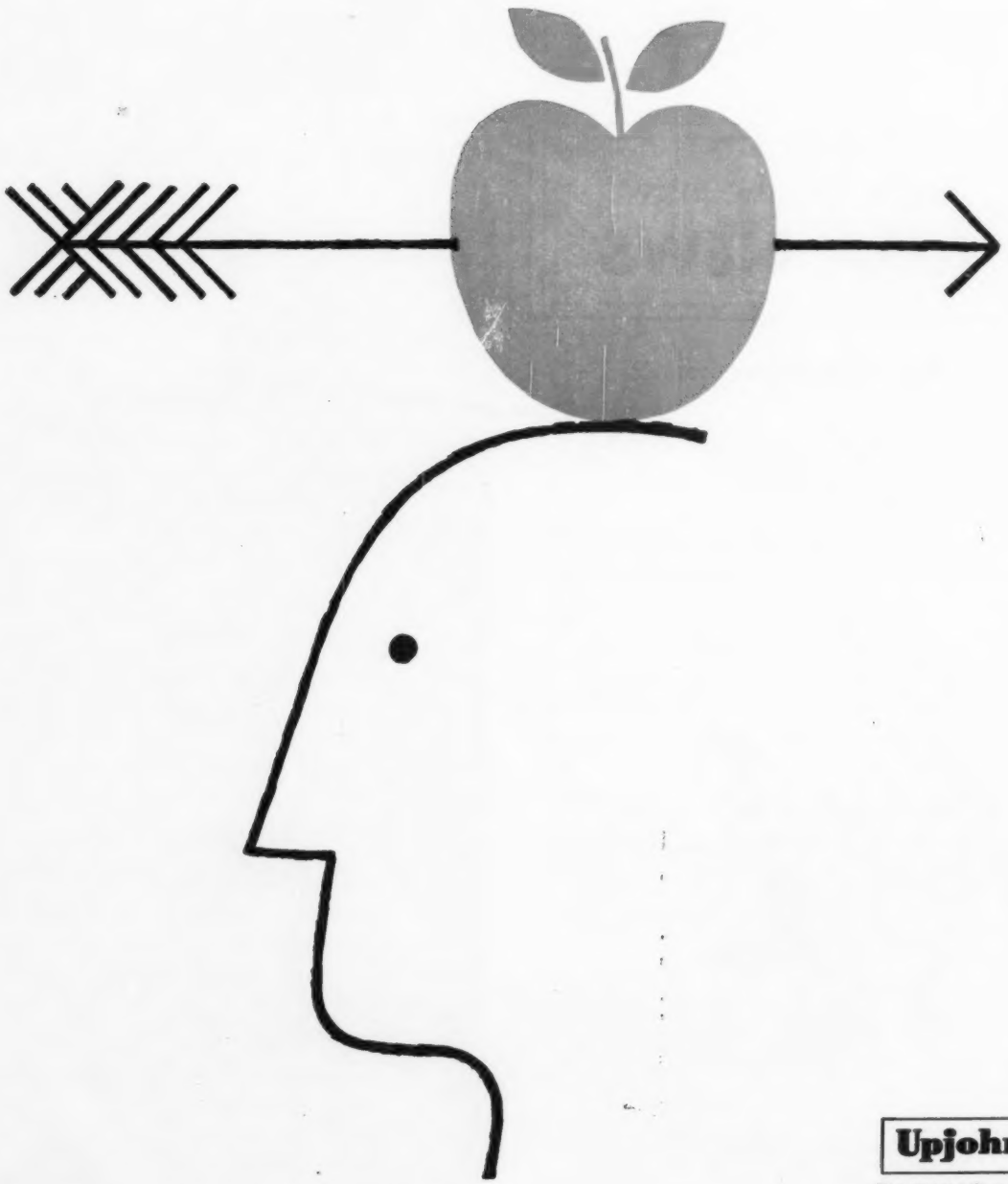

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2. Majewski, J. T. and Jennings, T.: Obstetrics & Gynecology, Vol. 5, No. 5, 1955.
3. Majewski, J. T. and Jennings, T.: Obstetrics & Gynecology, Vol. 9, No. 3, 1957.
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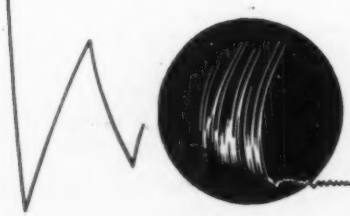

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